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THE
MOSAIC THEORY
OF THE
SOLAR, OR PLANETARY,
SYSTEM.

VERITAS est temporis filia quam parit aliquando unico nixu, aliquando diutius in partu laborat. Nova et insolita sæpe displicent primo aspectu, quæ tamen secundæ cogitationes, vel ætas postera, ubi deferbuerint animi, rata habent, et rationi consentanea. Hoc in nonnullis dogmatis experti sumus, in aliis, opinor, experturi.

BURNET. *Archæolog.* p. 524. *Ed.* 2da.

By SAMUEL ^kPYE, M. D.
Author of MOSES AND BOLINGBROKE.



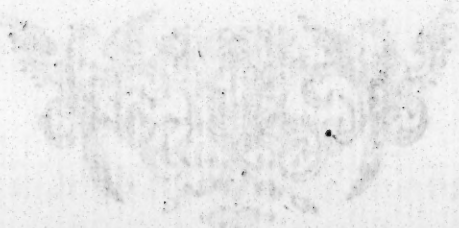
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THE
MOSAIC THEORY

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SOLAR, OR PLANETARY,
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By SAMUEL J. E. M. D.
Author of "Mosaic and Planetary."



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P R E F A C E.

ENcouraged by the very favourable reception of a late Dialogue, in defence of the character and writings of *Moses*, the Author proposes to resume the argument, by pursuing his original plan ; which was, critically to examine the *HISTORY OF CREATION*, as contained in the first chapters of *Genesis* ; and by comparing the several passages in that history, with the late improvements in natural philosophy, to offer to the Public a *NEW THEORY*, not of the *EARTH* alone, but of the *SOLAR, OR PLANETARY SYSTEM*, on *Mosaic* principles.

For, as the *Earth* is but a small part of that assemblage of globes, which constitute the planetary system, and is itself a planet, it is natural to suppose, that the *Earth* is coeval with the other bodies of the same system. And as we cannot possibly conceive of a planet, without a sun ; or of the use of a sun, but for the sake of one, at least, or more planets, to roll about him ; it is equally natural to suppose, that all the bodies, in one and the same system, were made at one and the same time.

If, therefore, from the *Mosaic* history of creation, it can be made to appear, that this was the case in *his* system, since the Earth stands in so close a connection with the other bodies, it cannot easily be conceived, that a rational and philosophical theory can be formed of the EARTH, unless we can frame a rational, consistent, and philosophical theory of the SYSTEM to which it belongs.

But as in this new argument MOSES is to be compared with COPERNICUS, and many of the readers of the first chapters of *Genesis* are not acquainted with his doctrine, it will be necessary, for the use of such persons, to premise a brief description of the planetary system.

This system (in the words of Dr. *Pemberton*) is “ disposed in the following manner. In the middle is
 “ placed the Sun. About him fix globes continually
 “ roll. These are the primary planets; that which is
 “ nearest to the sun is called Mercury, the next Venus,
 “ next to this our Earth, the next beyond is Mars, after
 “ him Jupiter, and the outermost of all Saturn. Besides these, there are discovered in this system, ten
 “ other bodies, which move about some of these primary planets, in the same manner as they move round
 “ the Sun. These are called secondary planets. The
 “ most conspicuous of them is the Moon, which moves
 “ round our Earth; four bodies move in like manner
 “ round

“ round Jupiter, and five round Saturn. Those which
“ move about Jupiter and Saturn are usually called Sa-
“ tellites, and cannot be seen without a telescope. It
“ is not impossible, but there may be more secondary
“ planets besides these, though our instruments have not
“ yet discovered them.”

Now on the face of the *Mosaic* account of creation, there manifestly appear three principal parts of a planetary system; the Earth is expressed by name, and the two great lights of *MOSES*, can be no other than the Sun; and the Moon. Here then is a sun, one primary, and one secondary planet. If, therefore, these three bodies cannot be conceived to be any parts of a planetary system, but on the principles of *Copernicus*, those principles (if *Moses* be a consistent writer) must be, either expressed in, or manifestly deducible from, the history of the creation, and formation of these bodies.

For, if the system of *Copernicus* ever had a beginning, (and *Moses* has given an account of the beginning of such a system,) the principles of the system of *Copernicus* must have been the same, on which the *Mosaic* was formed: or, in other words, the principles by which the *Copernican* subsists, are the same, on which the *Mosaic* was founded.

There

There is a noble passage in the posthumous works of Lord BOLINGBROKE^a, "*The history of the Bible must stand on the bottom of its own authority, independently of all other.*" If this proposition be strictly and literally true, (as has been elsewhere demonstrated^b, let us apply it to the history of the creation, as contained in the first chapter of *Genesis*, and it will run thus,----
 "The history of creation must stand on the bottom of its own authority, independently of all other,"---independently of the authority of all critics, all commentators, *Jewish* and *Christian*, *ancient* and *modern*.---
 Let the history then speak for itself.

^a Bolingbroke, Vol. II. p. 211.

^b See Moses and Bolingbroke, p. 43, 44.

T H E
MOSAIC THEORY
OF THE
SOLAR, or PLANETARY, SYSTEM.

C H A P T E R I.

G E N E S I S, CHAP. I.

Ver.

1. **I**N the beginning God created the heaven and the earth.
2. **I** And the earth was without form, and void; and darkness was upon the face of the deep; and the Spirit of God moved upon the Face of the waters.
3. And God said, Let there be light: and there was light.
4. And God saw the light, that it was good: and God divided the light from the darkness.
5. And God called the light, Day, and the darkness he called Night: And the evening and the morning were the first day.
6. And God said, Let there be a firmament in the midst of the waters; and let it divide the waters from the waters.
7. And God made the firmament, and divided the waters which were under the firmament, from the waters which were above the firmament: and it was so.
8. And God called the firmament heaven: and the evening and the morning were the second day.
9. And God said, Let the waters under the heaven be gathered together unto one place, and let the dry land appear: and it was so.
10. And

Ver.

10. And God called the dry land Earth; and the gathering together of the waters called he Seas: and God saw that it was good.
13. And the evening and the morning were the third day.
14. And God said, Let there be lights in the firmament of the heaven, to divide the day from the night: and let them be for signs, and for seasons, and for days, and years.
15. And let them be for lights in the firmament of the heaven, to give light upon the earth: and it was so.
16. And God made two great lights; the greater light to rule the Day, and the lesser light to rule the night: the stars also.
17. And God set them in the firmament of the heaven, to give light upon the earth,
18. And to rule over the day, and over the night, and to divide the light from the darkness: and God saw that it was good.
19. And the evening and the morning were the fourth day.
31. And God saw every thing that he had made, and behold, it was very good. And the evening and the morning were the sixth day.

CHAP. II.

1. Thus the heavens and the earth were finished, and all the host of them.
4. These are the generations of the heavens, and of the earth, when they were created; in the day that the Lord God made the earth and the heavens.

From these words of *Moses* the following Propositions may be fairly deduced.

PROP. I.

That the *Mosaic* creation is an historical account of the creation, and formation, of the Solar, or Planetary System, exclusive of every other Being, or System of Beings, in the universe.

PROP.

PROP. II.

That by the heaven, or heavens, [chap. i. 1. and ii. 1.] *Moses* manifestly means the heavenly bodies; which together with our Earth, compose the Solar System.

PROP. III.

That when *Moses* says, in the beginning God created the heaven and the earth, he is to be understood to mean, that God, out of nothing made, or commanded into existence the several masses of matter, of which those heavenly bodies and this earth do consist.

PROP. IV.

That these several masses of matter were, at their creation, in a chaotic state; each of them a distinct fluid chaos; without any form, except what arose from that particular gravity, or tendency of their several particles to the centres of their respective masses, which the Creator seems to have impressed on them, at the beginning.

PROP. V.

That the face of the deep, and the face of the waters, are synonymous expressions for the fluid surfaces of these chaotic masses.

PROP. VI.

That as the immense mass of matter, of which the body of the sun consists, was, (by Prop. iv.) in a chaotic state, void of motion, light, and heat; darkness must necessarily have been upon its fluid surface; and consequently, upon the fluid surfaces of every body in the system.

PROP. VII.

That the motion, impressed on these bodies, by the Spirit of God, was of their fluid surfaces alone; whilst their respective axes remained at rest.

PROP. VIII.

That the moment these bodies were impressed with this motion, that carried them about their respective axes, the sun became a globe of fire: and there was light.

10 *The* MOSAIC THEORY *of*

PROP. IX.

That general, or universal gravity, did not take place in our system, till the fourth day.

PROP. X.

That every planet, that rolls about our sun, was formed, in the same manner, as the earth was formed.

These propositions contain the true principles of *Moses*; or the general principles on which the *Mosaic* doctrine of creation is founded. For if *Moses* be permitted to be his own interpreter, (and every writer may justly demand this liberty) they naturally flow, from the *Mosaic* sense and use of the words in his narration. Not that *Moses* was acquainted with these principles; or that he had any more knowledge of his own doctrine, than himself, or any other eminent prophets, had, of their own prophecies (1). It was sufficient for them to write, whether in the prophetic, or the historic, style, what they had in commission to write. The words, therefore, by which *Moses* describes the beginning and the progress of the creation, are by no means to be considered as the words of the writer, but of him, who appointed and inspired him to write the book of, the *Genesis*, or the generations, of the heavens and the earth. By the *Mosaic* sense, then, and use of words, we must be understood to mean, that sense, which discovers itself in the writings of *Moses*; which can be no other than the original, literal sense, affixed to them by the Creator. For if on these general principles, of which *Moses*, by supposition was ignorant; or if from the above passages in *Genesis*, the meaning of which the writer could not possibly understand, an easy, natural, and consistent, scheme can be formed, of the creation of a planetary system; we shall have the highest demonstrative evidence, that *MOSES* was an inspired writer; and, con-

(1) 1 Pet. i. 10. 12.

frequently, that what we call the system of MOSES, is in reality the system of the Creator. (1) This will appear in the following paraphrase, in which the candid Reader will have a summary view of the *Mosaic* doctrine of creation, and its application to every body in the system.

TEXT.

GEN. I. 1.

In the beginning God created the heaven and the earth.

2. And the earth was without form, and void; and darkness was upon the face of the deep: and the Spirit of God moved upon the face of the waters.

PARAPHRASE.

GEN. I. 1.

In the beginning of time, as time is measured to the inhabitants of this earth, and of every planet in the system, *God created*, or, from a state of non-existence commanded into being, *the heaven*, the heavenly bodies, the sun, the moon, with the other planets, &c. *and the earth*. 2. *And as the earth*, so every one of these heavenly bodies, *was without form and void*; mere masses of matter; each of them a distinct, confused, fluid, chaos; *and*, as the immense mass of matter, of which the body of the sun consists, was in a chaotic state, void of motion, light, and heat, *darkness was necessarily upon the face of*

(1) The true notion of a SYSTEM, or the whole of the doctrine, of Creation, is to be learned from the material system, to which we belong. Here, the sun, with the earth, and every other body within the sphere of the sun's action, having (agreeably to the reason of its expressive name) a mutual and regular dependence on each other, form one complete Whole. Now, as it was the Creator alone, who could cause the several parts of this mighty Whole, to CONSIST; or, in the language of a prophet, as it was "He, who laid the foundations of the earth, and whose right hand spanned [stretched out] the heavens; that made them, when he called unto them, to STAND UP TOGETHER." (Isai. xlviii. 13.) If the several parts of the *Mosaic* doctrine of creation, shall appear to have a mutual and regular dependance on each other; and as truly to CONSIST, and to form as complete and perfect a scheme of creation, as the material system is perfect and complete; it must necessarily have been the Creator alone, who could teach *Moses* this doctrine of the generations of the heavens and of the earth.

P A R A P H R A S E.

T E X T.

the deep; on the fluid surface, not only of the earth, but of every other planet, &c. and of the sun itself: *and the Spirit of God moved*, impressed a violent motion, upon the surface of the waters; the fluid surfaces of the earth, of every planet, and of the sun itself.

3. *And*, whilst the Spirit of God was impressing this violent motion, upon the surfaces of the earth, and of the heavenly bodies, *God said, Let there be light*: and the immense body of the sun, instantaneously became a globe of fire: *and there was light*.

4. *And God saw the light that it was good*: that this globe of fire darted forth its rays of light, from every point of its stupendous surface; ministring light and heat to every planet in the system: *and*, by the motion of the earth, and every planet, about their respective axes, *God divided*, or, had divided, *the light from the darkness*, on each of them.

5. *And God called the light*, the time of the continuance of the light, on every possible hemisphere of the earth, and of every other planet, *Day*; *and the darkness*, the time of the sun's absence from those hemispheres, *he called, Night*. *And the evening and the morning were the first day*, to every primary planet in the system.

6. *And God said, Let there be a firmament*, an expanse, an atmosphere, *in the midst of*

3. And God said, Let there be light; and there was light.

4. And God saw the light that it was good; and and God divided the light from the darkness.

5. And God called the light, Day; and the darkness, he called Night: and the evening and the morning were the first day.

6. And God said, Let there be a firmament in the

TEXT.

the midst of the waters;
and let it divide the waters
from the waters.

7. And God made the
firmament, and divided
the waters which were un-
der the firmament, from
the waters which were a-
bove the firmament: and
it was so.

8. And God called the
firmament heaven: and
the evening and the morn-
ing were the second day.

9. And God said, Let
the waters under the hea-
ven be gathered together
unto one place, and let the
dry land appear: and it
was so.

PARAPHRASE.

the waters, that are upon the surface of
the earth, and of every primary planet,
and the waters, that by means of these
atmospheres, will be raised and suspend-
ed above the waters, on their surfaces;
and let it, on each of them, *divide the*
waters from the waters.

7. *And God made a firmament*, an ex-
panse, an atmosphere, to the earth, to
every other planet, and comet; and, (as
exhalations proceed from the surface of
its body) to the sun itself; *and divided*
the waters, (or fluid matter) *which were*
under the firmament, from the waters or
fluid matter, *which were above the firma-*
ment, on each of them: *and it was so.*

8. *And God called the firmament*, the
expanse, the atmosphere, of the earth,
and of every primary planet, *heaven:*
and the evening and the morning, on the
earth, *were the second day.*

9. *And*, the earth being covered with
the deep as with a garment, and the wa-
ters standing above the mountains, (1)
the mountains must have been formed
under the waters (2); *God said*, *Let the*
waters under the heaven, on the surface of
the earth, and every primary planet, and
the fluid matter, on the surface of the
sun, *be gathered together unto one place,*
and let the dry land appear: and it was so.
At thy rebuke, thy command, they fled:

(1) Psal. civ. 6.

(2) Job xxvi. 5.

PARAPHRASE.

TEXT.

at the voice of thy thunder, thy thundering, thy commanding, voice, they hasted away. The mountains ascend, and make room for the waters, to occupy the places deserted by the rising earth; the vallies descend unto the place, *the one place*, which thou hast founded for them (1).

10. *And God called the dry land, on our globe, Earth; and the gathering together, the collection, of the waters, that remained on the surface, after their separation from the dry land, called he Seas. And God saw that it was good.*

13. *And, on earth, the evening and the morning were the third day.*

14. *And God said, Let there be lights, set, placed, in the firmament of the heaven, of the earth, and of every primary planet, in such a manner, as to divide the day from the night, of every possible hemisphere, of the earth, and of every planet; and let them be for signs, and for distinguishing the various seasons, and for days, and years.*

15. *And let them be for lights in the firmament of the heaven, of the earth, and of every primary planet, to give light upon the earth, upon Jupiter, Saturn, &c. And it was so.*

16. *And God had already made, for the earth, two, for Jupiter, five, for Saturn, fix,*

10. And God called the dry land, Earth; and the gathering together of the waters, called he Seas: and God saw that it was good.

13. And the evening and the morning were the third day.

14. And God said, Let there be lights in the firmament of the heaven, to divide the day from the night; and let them be for signs, and for seasons, and for days, and years.

15. And let them be for lights in the firmament of the heaven, to give light upon the earth: and it was so.

16. And God made two great lights; the greater light

(1) Psal. civ. 7, 8.

TEXT.

light to rule the day, and the lesser light to rule the night: the stars ~~to rule~~ the night also.

17. And God set them in the firmament of the heaven, to give light upon the earth,

18. And to rule over the day, and over the night; and to divide the light from the darkness: and God saw that it was good.

19. And the evening and the morning were the fourth day.

31. And God saw every thing that he had made, and behold it was very good. And the evening and the morning were the sixth day.

Chap. II. 1.

Thus the heavens and the earth were finished, and all the host of them.

* To him that made great lights—the sun to rule by day—the moon and stars to rule by night. Psal. cxxxvi. 7, 8, 9.

PARAPHRASE.

fix, great lights; the greater light, the sun, to rule, direct, and govern the day; the lesser lights, the moons, and the stars, to rule, direct, and govern the night*, on each of them respectively.

17. And God set, placed, them, the two greater lights, in the firmament of the heaven, to give light upon the earth; fix greater lights in the firmament of the heaven of Saturn, and five in that of Jupiter, to give light upon those planets;

18. And to rule over, to direct and govern, the day, and over the night; and to divide the various light of every day in the year, from the darkness of every night, on every planet in the system. And God saw that it was good.

19. And, on the earth, on Venus, and Mars, the evening and the morning were the fourth, on Jupiter, and Saturn, the ninth, day.

31. And God saw every thing that he had made, and behold it was very good. And the evening and the morning, on the earth, on Venus, and Mars, were the sixth, on Jupiter, and Saturn, the fourteenth, day.

Chap. II. 1.

Thus, in the manner above related, and in the times specified, the heavens, the heavenly bodies, even all the host of them;

the

PARAPHRASE.

the sun, the moon, and the other planets, with the comets of our system, *and the earth, were finished.* The body of the sun, from a dark confused watery chaos, became a globe of fire; and from a similar chaotic state, the planets were gradually reduced into order, as the earth was, and formed into habitable worlds.

2. *And on the seventh day, of our earth, and of the planets Venus, and Mars; on the fifteenth of Jupiter, and Saturn, God had ended his work which he had made: and he rested, ceased, on the seventh, the fifteenth, day, from all his work which he had made.*

3. *And God blessed the seventh, the fifteenth, day, and sanctified it [them] to the respective inhabitants of the several planets; because that in it [them] on those days, he had rested, ceased, from all his works, which God, out of nothing had created, to make, to form, into a system of worlds, in the six preceding days.*

4. *These are the generations of the heavens, the heavenly bodies, the sun, the moon, and the other planets, with the comets of our system, and of the earth, in the day that, at the time when, the Lord God made the earth and the heavens, the heavenly bodies, the sun, the moon, and every other planet, and comet in the system.*

TEXT.

2. And on the seventh day, God ended his work which he had made: and he rested on the seventh day from all his work which he had made.

3. And God blessed the seventh day, and sanctified it: because that in it he had rested from all his work which God created and made.

4. These are the generations of the heavens and of the earth, in the day that the Lord God made the earth and the heavens.

CHAP II.

Of the Creation of the several Bodies, that constitute the Solar, or Planetary, System.

“ Id non malè mihi dictum videtur, *Philosophiam esse Scripturæ interpretem in rebus naturalibus*: Sed Philosophiam intelligo, non aridam et jejunam, otiosi Cerebri figmentum; sed quæ naturæ Phænomenis, repetitis experimentis, solidisque Rationibus, respondet.” BURNET. *Archæol.* p. 437.

HAVING given a general view of the doctrine of the creation, and formation, of the system, in the paraphrase, agreeable to the propositions laid down above; we proceed to the proof of the propositions, beginning with those that relate chiefly to creation; the connexion of which is evident.

PROP. I.

That the *Mosaic* creation, is an historical account of the creation, (and formation) of the Solar, or Planetary, System; exclusive of every other being, or system of beings, in the universe.

PROP. II.

For, by the heaven, or heavens, [*Gen.* I. 1. and II. 1.] *Moses* manifestly means, the heavenly bodies; which, together with the earth, compose the Solar System.

PROP. III.

When, therefore, *Moses* says, God created the heaven and the earth, he is to be understood to mean, That God, out of nothing, made, or commanded into existence, the several masses of matter, of which these heavenly bodies, and this earth, do consist.

Now that these three propositions contain the true *Mosaic* doctrine of creation, will appear, from the explication of the terms, made use of by *Moses*, in his first proposition.

Gen I. 1. *In the beginning, God created the heavens and the earth.*

IN THE BEGINNING ——— Myriads of ages may have elapsed, since numberless worlds, since systems of worlds without number, were created. For that every fixed star is a sun, and the centre of a particular system, surrounded with a number of planets, and perhaps, comets, which at different distances, and in different periods, perform their courses round their respective centres, is now universally admitted by those, who embrace the system of *Copernicus*, as far as that relates to our sun, and its planets. Now as the earth, with the two great lights, the sun and the moon, which are parts of a planetary system, had a beginning, (as *Moses* says they had,) the other bodies in our system must have had a beginning: and, for the same reason, every system in the universe, must likewise have had a beginning of its existence; and if they were all created, when the heavens and the earth of *Moses* were created, they must all be included in the term *heaven*, or *heavens*. On this supposition, *In the beginning*, must manifestly refer to, and can mean nothing more, or less, than the beginning of the existence, of every body, at least, and every system of bodies, in the wide extended universe: for it is evident, that whatever may be the precise and determinate meaning of the term, *heaven*, or *heavens*, in this connection, this heaven, or these heavens, with our earth, are the sole subject of the *Mosaic* creation: but if it should appear, that the term is applied by *Moses*, to any certain and determinate number of bodies; then those bodies, and those alone, together with the body of our earth, exclusive of every other being, or system of beings, in the universe, are the bodies which in the beginning God created. *In the beginning God created the heaven and the earth:* And when the work of creation was completed——he ends as he begins, with the heavens and the earth—*Thus the heavens and the earth, even all the host of them, were finished. In the beginning, therefore, must mean, in the beginning of the existence of these*
heavens

heavens, and of this earth; that is, in the beginning of time, as time to us, and to every other planet, in our System, depends upon, and is measured by, the motions of these heavens, and this earth.

GOD CREATED—Now if time, as time is measured to us, and to every planet, in our system, began with the existence of these heavens and this earth; that is, if they had no existence, before God created them; *Creation* must in this passage, signify, a production out of nothing; agreeably to our third proposition, viz. “That God, out of nothing, made, or commanded into existence, “the several masses of matter, of which these heavenly bodies, “and this earth do consist.” But this must be determined by *Moses* alone.

To *create*, and to *make*, are evidently distinguished by *Moses*, throughout his whole narration; it is therefore, necessary, carefully to attend, to so material a distinction, without which, it is impossible to understand, what were the separate and distinct acts, of the divine Wisdom, and Power, in the original *Creation*, and in the subsequent *Formation*, of the heavens and the earth, or of any thing that relates, either to the one, or to the other.

ברא *Bara*, in its primary, and original sense, (and it is natural to suppose, that the primary sense of any word, is to be found in the first use of that word) is, to CREATE, to bring into existence what *before*, had no existence. In this sense, the word is strictly used, and with singular propriety applied, by *Moses*, to the bringing into being, the matter, the materials, out of which the heavens, and the earth, were afterwards formed: but when the matter of the heavens, and the earth, were once produced, out of a state of non-existence, the word is no more to be found in this original sense, throughout the whole Bible; except in those passages where the Writer manifestly speaks, of this original production; and, therefore,

therefore, wherever else we meet with the word *Bara*, it is to be understood in a secondary, or allusive, sense: thus God created great whales, (1)—created man, (2)—male and female created he them (3). So chap. II, 3, 4. and V. 1, 2. To hint to us, that the formation of the hugest of the watery tribe, and the inhabitants of the more fluid air, even of the smallest wing, from pre-existent matter, and the formation of man, from the dust of the ground, required the same Almighty Power, as it did to command into being, the several masses of matter, of which the heavens and the earth were formed. And here let it be observed, that this secondary, or allusive, sense of the word *Bara*, as applied to man, is confirmed by the historian, who speaking of the matter, of which man was made, uses the word יצר *Jatzar*, to form to fashion, or to shape, as the potter forms the clay: *And the Lord God formed man of the dust of the ground* (4).

עשה *Nasha*, signifies to do, to act, to make, to form, or shape. Thus the matter of which the heavens and the earth consist, having been, in the original and proper sense of the word *Bara*, created; when the different portions of this matter were formed, or fashioned, to answer the different purposes of the Creator, he is said, (except as before excepted) not to *create*, but to *make*. Thus, God made the firmament; (5)—made two great lights; (6)—every thing that he had made; (7)—his work which he had made; (8). And to establish and confirm the justness of this *Mosaic* distinction, when the heavens and the earth, even all the host of them were finished, both these words are most significantly, and with the greatest propriety applied; *Bara*, to the original production of the matter; and *Nasha*, to the subsequent formation, or fashioning of that matter. And God blessed the seventh day, and sanctified it, because that in it, he had rested from all his work,

(1) Gen. I. 21. (2) Ver. 27. (3) Id. ibid. (4) Gen. II. 7.
 (5) Gen. I. 7. (6) Ver. 16. (7) Ver. 31. (8) II. 2.

which God created and made. [*Heb.*] created to make; (1) that is, which God at first, in the beginning of the first day, had *created*, in order to *make*, *form*, or *fashion*, in the fix. For the earth was without form, when it was created; if therefore, it was created without form, the making of the earth, or its formation, must necessarily have been very different from its creation.

The learned Dr. *Burnet* has, indeed, laboured to prove, That the creation of the heaven and the earth, was no more, than the formation of, or disposing, confused matter, into a habitable world, and not a production of things out of nothing, when he says, “ The word *Bara*, in the *Hebrew*, *Ktizein*, in the *Greek*, and “ *Creare*, in the *Roman* tongue, have no such meaning. Nor “ indeed, (says he) in any language that I am acquainted with, “ is the production of things from nothing, ever expressed by “ one single word. The meaning and use of these words in the “ three languages, are sufficiently known: and as to the *Hebrew* “ word *Bara*, in particular, and its use in the sacred writings, “ that it is applied to other actions and effects, than the produc- “ tion of things from nothing, is admitted by all. From this “ word, therefore, nothing can be proved (2).”

But how specious soever this reasoning may appear, if what has been said above, be not sufficient to establish the justness of so material a distinction, between the words, to *create*, and to *make*, give me leave to add, that whatever may be the sense, or

(1) Gen. II. 3.

(2) “ Vox בָּרָא apud *Hebræos*, κτίζειν, apud *Græcos*, *Creare*, apud *Latinos*, vim “ istam (productionis rerum ex nihilo) non habent. Nec in quacunque lingua, quod “ sciam, productio rerum ex nihilo, unica voce comprehenditur. Vis et usus dic- “ tarum vocum in tribus istis linguis, satis nota sunt; et quoad *Hebraicam* specia- “ tim, usumque in sacris literis, vocem בָּרָא aliis actionibus effectisque applicari, “ quam primæ rerum productioni, apud omnes in confesso est. Ab istoc igitur vo- “ cabulo nihil probari potest.” *Archæol.* p. 427.

use, of the word *create*, in any, or in all the languages in the world, except the *Hebrew*; the true, the original sense, and use, of the word, must be learned from the *Hebrew*, because that was the language, in which the word first appeared; and in which alone, the production of things out of nothing was first discovered to mankind. And here let it be observed, that this original sense and meaning of the word, being unknown, or lost, to all the nations upon earth, the secondary sense is the only one, that could possibly be received, without a revelation from him, that produced all things out of nothing; because it was ever thought, by Philosophers, repugnant to reason, that any one thing could be produced from nothing; according to the trite proverb—*Ex nihilo nihil fit*.

The HEAVEN, or the HEAVENS——The justness, and the great importance, of this distinction between *creating*, and *making*, will abundantly appear, if it should lead us directly to the true *Mosaic* sense, and use, of the word *Heaven*, or *Heavens*, in this passage.

In six days the Lord made the heaven and the earth (1). It is evident, that this is a general account of the creation, taken from this chapter; but the particulars are included in the work of the different days, in a regular and orderly series. On the *first* day, therefore, in the beginning of the first day, God created the *Heaven* and the *Earth*. The work of the *second* day was, God's making a firmament, an expanse, an atmosphere (2): And God called this firmament, this expanse, this atmosphere, *Heaven* (3). Now the heaven, or heavens, (for the *Hebrew* knows no singular) that were, in the beginning of the first day, created with the earth; and this heaven, (for the word is the same in the eighth, as in the first verse) this expanse, this atmosphere, which was made on the

(1) Exod. xx. 11.

(2) Gen. i. 7.

(3) Ver. 8.

second,

second, could not possibly be the same as that, which was created on the *first* day: for how indeterminate soever the ideas may be, which Interpreters have affixed to any of the words, in this account of creation; those names, which the Creator himself gave to things at the beginning, must furnish the mind with very determined ideas; and therefore cannot possibly be mistaken by an attentive, and an unprejudiced, Reader: for instance, when God had divided the light from the darkness, he called the light, *Day*; and the darkness, he called *Night* (1): when he had separated the waters from the dry land, he called the dry land, *Earth*; and the gathering together of the waters, he called *Seas* (2): and in the day that God created them,—male and female, he called their name, *Adam*, or *Man* (3): in the same manner, when God had made the firmament, he called the firmament, *Heaven* (4): if therefore, the names, *Day*, and *Night*; *Earth* and *Seas*; *Adam*, or *Man*; are words that have ever had the same precise, and determined ideas affixed to them, as at the beginning; the word *Heaven*, has an equal claim to its original signification, viz. the *firmament*, or *expansé*, or *atmosphere*. And here it is to be observed, that after God had given this name to the firmament, whether the word *Heaven*, in this account of creation, be used alone, or in connexion with the word firmament, it constantly and invariably signifies, the firmament, the expanded air, expansé, or atmosphere (5).

Since then the heaven, or heavens, that in the beginning God created with the earth, cannot possibly signify the firmament,

(1) Gen. I. 5. (2) Ver. 10. (3) Gen. V. 1, 2. (4) Gen. I. 8.
 (5) The waters under the heaven, ch. I. 9.—in the firmament of the heaven, ver. 15.—17.—Fowl that may fly in the open firmament of heaven. ver. 20. And in consequence of this interpretation, whenever we meet with the dew—the clouds—fowls, or birds—of heaven, the word most evidently signifies the expansé, the expanded air, or atmosphere, that encompasses the whole earth. See Deut. xxviii. 12. The Lord shall open to thee his good treasure, the *Heaven* to give the rain unto thy land in his season.

expanse, or atmosphere, which was not created with the earth; the word, *Heaven*, in this first verse, must signify some body, or bodies, that were created, when the body of the earth was created. Now it is very evident, that two great bodies, the sun and the moon, the two great lights of *Moses*, were created with the earth; and as they are, and, from time immemorial have been, called *heavenly bodies*, what conclusion can be more natural, than that the word *heaven*, or *heavens*, in this passage signifies, heavenly bodies? *In the beginning God created the heavenly bodies, and the body of the earth.*

A little attention to the words of *Moses*, and to the common usage of language, will furnish us, not only with the reason of the name, but with the true reason, why the word, *Heaven*, must signify, the *heavenly bodies*. The firmament, the expanse, or atmosphere, is expressly called *Heaven*, by him that made it (1): and it is as expressly said (2), That God set the two great lights, the sun and the moon, in the firmament of the heavens, to give light upon the earth; and to rule over the day and over the night; and to divide the light from the darkness: the bodies, therefore, of the sun and moon, are with the greatest propriety called *heavenly bodies*, because they are SET, placed, in the heaven, or firmament of the heaven; the heaven, therefore, by a common metonymy, is put for the bodies contained in the heaven. But *MOSES* has for ever fixed this his sense, and use, of the word, in his sum of the creation, chap. II. 1. *Thus the heavens, the heavenly bodies, even all the host of them, and the earth, were finished* (3). For the

(1) Gen. I. 8.

(2) Ver. 17. 18.

(3) *All the host of them*—That by all the *host of heaven* is to be understood, the sun, the moon, and all the visible planets in the Solar System, will evidently appear from the following passages,—“*Lest thou lift up thine eyes to heaven, and when thou seest the sun, and the moon, and the stars, even all the HOST of heaven, thou shouldst be driven to worship them, and serve them, WHICH THE LORD THY GOD HATH DIVIDED* [Hebr. imparted.]

the words are the same, as in chap. I. 1. and in the same connexion, and therefore must be understood in the same sense: and this sense is determined by the addition of that most significant, and expressive, clause——*and, [even] all the host of them*: for when MOSES had said, in general, that God created the heavens, the heavenly bodies, and the earth; if when he had given us the particulars of their formation, he says, *they were finished*, and finished in that particular manner which he had described, they must have been the same heavens, the same heavenly bodies, and the same earth, which God in the beginning had created. Since, therefore, the sun, and all the planets that roll about him, to-

imparted.] UNTO ALL NATIONS UNDER HEAVEN. Deut. iv. 19. The moon and the stars, here, are evidently the visible planets; because no other stars are *divided*, or *imparted* unto, i. e. can be seen by all nations under heaven. Every possible hemisphere has a certain determinate number of stars, which rise, and set, to those hemispheres alone; whereas “there is no part of the world from whence we may “not admire those planets, which roll, like ours, in different orbits round the same “central sun.” [*Bolingbroke’s Study of History*, Vol. II. p. 247.]—*And hath gone and served other gods, and worshipped them, either the sun, or the moon, or any of the HOST of heaven.* Deut. xvii. 3.—*and worshipped all the HOST of heaven.* 2 Kings xvii. 16. xxi. 3.—*altars for all the HOST of heaven, xxi. 5.*—*By the word of the Lord were the heavens made, and, [even] all the HOST of them,* Psalm xxxiii. 6. And to add no more, *Have ye not known? have ye not heard? hath it not been told you (by my servant Moses) from the beginning? have ye not understood from the foundations of the earth? it is he that sitteth on the circle, [on the orbit] of the earth, that stretcheth out the heavens, (the heavenly bodies) as a curtain—Lift up your eyes on high, and behold who hath created these things; that bringeth out their HOST by number, he calleth them all by names.* Isai. xl. 21, 22, 26. If it be said, this argument can be of no force, because the words, are not the heavens and all the Host of them—but, the heavens and the earth, and all the Host of them, were finished; let it be remembered, that the proposition is general, and includes all the bodies in the System, which were now finished; and, therefore, as the earth is a heavenly body to the other planets, as they are heavenly bodies to us, no words could more properly, or more emphatically, express, the whole assemblage of the bodies that were now finished, if (as we shall soon see, the comets are included) than these words of *Moses*. But if this will not satisfy, let the objector read, Psal. xxxiii. 6. *By the word of the Lord were the heavens, made and [even] all the Host of them.*

D

gether

gether with our earth, constitute the Solar, or Planetary, System, in the language of astronomers; if in the language of MOSES, and the prophets, the same sun, and the same planets, are constantly called the HOST OF HEAVEN, which, with our earth, constitute the same System, demonstration can go no farther, to establish the truth of our first proposition, as far as it relates to the creation of the bodies of which it consists, viz. “*That the Mosaic creation is an historical account of the creation of the Solar, or Planetary System, exclusive of every other being, or system of beings in the universe*.*”

But this is not the doctrine of *Moses* alone; for that all the bodies of our system were thus created, at one and the same time; and that the beginning, in which *Moses* says, they were created, must mean, (as we have said (1), in the beginning of the existence of these bodies, since time depends upon, and is measured by, their motions: this, I say, is not the doctrine of

* This interpretation will enable the Reader, to form a very clear, and distinct idea, of the extent of the *Mosaic* creation. “*Seneca* the Philosopher, having considered the phenomena of two remarkable comets of his time, made no scruple to place them among the celestial bodies; believing them to be stars of equal duration with the world, though he owns their motions to be governed, by laws not as then known, or found out.” [Dr. *Halley*’s preface—in *Whiston*’s *Philos.* of Sir *Isaac Newton*, p. 410.] But Sir *Isaac Newton*, finding that the comets are evidently within the sphere of the sun’s action, concludes they must necessarily move about the sun, as the planets do. If therefore the sun, and the moon, and the other planets, are *heavenly bodies* to us; the comets of our system are as truly to be placed among our *celestial bodies*; and therefore there can be no doubt, that they are equally included in this account of creation. And, for the same reason, the Satellites of *Jupiter* and *Saturn*, being heavenly bodies, not only to their primaries, but to us, since the telescope has discovered them in our heaven; we scruple not to say, that they (and if time shall discover any other attending moons to them, or to any other primary,) are in the number of the bodies, which in the beginning God created.

(1) Page 5.

MOSES

MOSES alone: the Author of the epistle to the *Hebrews*, speaking of the creation, by the Son of God, says, δι' ἧς καὶ τὰς αἰώνας ἐποίησεν. By whom also he made the WORLDS (1). And, Πιστεύομεν κατηγήσασθαι τὰς αἰώνας. By faith we understand that the WORLDS were made by the word of God (2). But as the word κατεργάζω signifies to *perfect*, to *finish*, out of many parts, one complete whole; the words might be rendered—the worlds were perfected, finished, and made one complete whole—one System. If this be admitted, these passages in the Apostle, will afford a striking testimony to the justness of our interpretation of the words of *Moses*. And in consequence of this sense of the word, Ἀιών, which frequently occurs in the writings of the New Testament, ἀπ' αἰῶνος signifies, *from the beginning of the world*———since the world began (3). Πρὸ τῶν αἰώνων—πρὸ χρόνων αἰώνων, are justly rendered, *before the world*——before the world began (4). Ἀιών, (except in the sense *Hippocrates* used it, for the *Medulla Spinalis*, or a disease which affected that part) signifies, *eternity, an age, or the life of man* (5); but as the sacred writers constantly use it for the WORLD, there must have been some very particular reason, for so uncommon a sense of the word. Now as time, to the inhabitants of this earth, and indeed, of every planet in the System, began, with the making of the worlds, that is, of the several bodies of the system, and is measured by the motions of those bodies; to make τὰς αἰώνας, the AGES, and to make the WORLDS, that is, the heavenly bodies and the earth, whose motions measure, and constitute the several parts and portions of time, of which ages consist, are in effect synonymous expressions. The *worlds*, therefore, and the *ages*, differ only as cause, and effect; which by a common metonymy, usual in all sorts of Authors, are frequently put one for the other.

(1) Heb. i. 2. (2) Chap. xi. 3. (3) Luke i. 70. Acts iii. 21.
(4) 1 Cor. ii. 7. 2 Tim. i. 9. (5) *Hesychius*, and *Suidas*.

This sentiment is finely expressed in a very remarkable passage in *Plato*, where he says, "TIME, therefore, had its beginning, and was created with the heavens, that as they had the beginning of their existence together, they might be dissolved together, if ever they should suffer a dissolution, and become an exemplar, a model, of eternity (1)."—"To answer, therefore, such a design and purpose of God, in the *Genesis* of time, in order to create time, the sun, and the moon, and five other stars called planets, were created, for the distinction and the conservation of the different parts and portions of time (2)."

But to confirm the scriptural sense, and use, of the word 'Αἰών, let it be observed, that as *Moses* describes the beginning, not only of the world, that we inhabit, but of *Worlds, a System of worlds*; so 'Αἰών, is the only word in the New Testament, (and perhaps in the *Greek* language) that can be made use of, to express more worlds than one: for, as the *Greeks* knew no other, than Γῆ, the earth; Οἰκουμενη, the habitable world; Κόσμος, the world; Αἰών, is the only name that knows any plural. And by the way, if this

(1) ΧΡΟΝΟΣ δ' ἐν μετ' Οὐρανὸν γεγενῆσθαι, ἵνα ἅμα γεννηθέντες, ἅμα καὶ λυθῶσιν, ὃν ποτε λυσις τις αὐτῶν γενῆται, καὶ κατὰ τὸ παραδείγμα τῆς αἰωνίου φύσεως. In *Timæo* Tom. III. Edit. *Serrani*. On this article, give me leave to propose the following query. If time, to the earth, and every planet, began with the creation of the System, may not ETERNITY, *a parte post*, be illustrated, by this consideration of the *Genesis*, and nature, of time; which appears to us, not so much the succession, of our ideas, which is *duration*, as the measure of that succession, by the natural, constant, and uniform revolutions of the heavenly bodies and the earth? For when the earth, and the heavenly bodies, shall cease to move; or when we shall be removed from this earth, into a state, where there will be no need of such a measure of the succession of our ideas, which by supposition is to be *endless*; shall we not then have done with time for ever? And will not such a state of things, be easily conceived to be ETERNITY, or ENDLESS DURATION?

(2) Ἐξ ἐν λόγῳ καὶ διανοίας Θεοῦ τοιαύτης πρὸς χρόνῳ Γενέσιν, ἵνα γεννηθῇ χρόνος, Ἥλιος καὶ Σελήνη, καὶ πέντε ἄλλα ἄστρα, ἐπικλήν ἔχοντα πλανήτες, εἰς διορισμὸν καὶ φυλάκην ἀριθμῶν χρόνῳ γεγενῆσθαι. *Id. ibid.*

interpretation,

interpretation, and the reason of the name be just, since at the time of the writing this epistle, no world, except that which we inhabit, was known, the Author must have been, an *inspired writer*.

But to return to *Moses*: Since, *In the beginning God created the heaven and the earth*, is a distinct proposition; full and complete in itself, and consequently, may be considered independently of the state, or condition, of the bodies created, and of any of the changes they passed through, in their formation; the whole of the *Mosaic* doctrine of creation, strictly and properly so called, is expressed in our third proposition.

PROP. III.

“ That when *Moses* says, *God created the heaven and the earth*,
“ [the heavenly bodies and the earth,] he is to be understood to
“ mean, that GOD, out of nothing, made, or commanded into ex-
“ istence, the several masses of matter, of which these heavenly
“ bodies, and this earth do consist.”

There is not, perhaps, in the whole Bible, any passage that can raise in the human mind, so exalted and magnificent an idea, of the Majesty of the Divine Being, as is this grand, this godlike, entrance upon the history of creation. “ We must conceive as
“ well as we can (says L^d. *Bolingbroke*) that God willed the world
“ to exist, and it existed (1.)” Thus then let us conceive of the words of *Moses*; that GOD, in the beginning willed the heavenly bodies, the sun, the moon, and every other planet, and comet, in the system, with our earth, to exist; and they existed. But as the will of God, in every act of his power, exerted in the formation of these bodies, is expressed to us, in a manner suitable to omnipotence alone,—*Let it be—and it was so; when he spake, it was instantly done*: may we not help our conception of creation,

by supposing, that an Almighty *Fiat*, immediately preceded the actual production of these bodies out of nothing? *Let there be light; and there was light*—fills the human mind with inexpressible wonder and astonishment, at the infinite ease, with which the Almighty works: but, if we might compare one act of the Divine Power, with another; how must the highest order of created intelligences, who are represented as witnesses to creation (1), have been lost in holy and rapturous amazement, to hear a voice, proceeding from the creating throne—*Let the bodies of the sun, and every planet, and comet, in the System, exist.*—*And they existed.*

(1) *When the morning stars sang together, and all the Sons of God shouted for joy, Job xxxviii. 7.*

C H A P. III.

A digression, concerning the general notion of a fluid Chaos.

“ Quis non novit ORPHEUM antiquum chaos cecinisse, et ejusdem discretionem
 “ et metamorphoses? Orbemque jam completum intus et extra, ovo assimilasse?
Burnet. Archæol. p. 163.

VARIOUS are the passages in heathen Authors, which seem to bear a great resemblance, to the *Mosaic history of creation*; but none of them, can more justly be said, to be absolutely founded on his account of creation, than the notion of a FLUID CHAOS. For when the heavenly bodies, and the earth, were created; when the materials of the rising worlds, the masses of matter, of which the bodies of the sun, the moon, and all the other planets, with the comets of the System, had received their being; one of these bodies is described as a *dark, fluid, chaotic body: the EARTH was without form, and void, and darkness was upon the face of the deep, on the fluid surface of its chaotic mass.* This is the true description of a *fluid chaos*, according to the letter of *Moses*, but the spirit of the doctrine of the *Mosaic chaos*, is comprehended in our fourth proposition.

PROP. IV.

“ That the several masses of matter, (of which the heavenly
 “ bodies and the earth do consist) were, at their creation, in a
 “ chaotic state; each of them a distinct, fluid, chaos; without
 “ any form, except what arose from that particular gravity, or
 “ tendency of their several particles, to the centres of their respec-
 “ tive masses, which the Creator seems to have impressed on them
 “ at the beginning.”

This proposition is the basis, on which the *Cosmogony of Moses* is founded. But as the *Phœnicians, Egyptians*, and the ancient pagan Poets, have founded their respective *Cosmogonies*, on a *fluid chaos*, *Moses* has been accused, by the late Lord BOLINGBROKE, of having followed the general opinion (1); and, in particular, of having borrowed, not only the notion of a *chaos*, but even his whole account of creation, from the *Egyptians*; let us hear his Lordship's charge, and the testimony he brings to support it.

“ This notion of a fluid chaos, which we know to have been
 “ very general, by *Plutarch*, and other authorities, was very *Mosai-*
 “ *cal* too, and points up to an *Egyptian* original. The founder
 “ of the *Ionic* sect had it from thence most certainly; and *Moses*
 “ too, if we give any credit to *Simplicius*, who scrupled not to de-
 “ clare, as I find him quoted by Dr. *Cudworth*, that the passages
 “ in the first of *Genesis*, about the creation of the world, were ta-
 “ ken from *Egyptian traditions* (2).”

“ Great men take great liberties, and expect to be believed on
 “ their words (3).” But this expectation is unreasonable and vain,
 because great men possibly may be mistaken; and though *the dis-*
ciples of Lord Bolingbroke have as good a right, as *the disciples* of Sim-
plicius, or any other *Philosopher*, to use the *αὐτος ἐφη* (4), yet those
 who are in the search of truth, will ever follow that prudential

(1) “ To build a world is not so easy a thing as many a speculative architect has
 “ imagined. The Author of the Book of *Genesis* begins his history by it.” Vol.
 V. p. 284.

“ The general opinion of all those who have reasoned about the creation or forma-
 “ tion of the world, and that which *Moses* himself follows, assumes that there was
 “ originally a *chaos*, or confused mass of matter, wherein all the elements, or first
 “ principles of things, which exist in the material System, were contained. Whe-
 “ ther this mass was created or no, they thought it so necessary to be supposed, that
 “ they could not go on one step, in building a world without it.” Vol. V. p. 288.

(2) Vol. II. p. 171.

(3) Id. II. p. 164.

(4) Id. *ibid.*

rule, which his Lordship has laid down for his disciples, and which he himself professes to follow; "Let us examine and compare for ourselves; look into the Authors they cite; but trust neither their citations, nor their reasonings (1). Let us then examine for ourselves; let us look into Dr. Cudworth, for this famous passage of "*Simplicius*, who scruples not to declare, that "the passages in the first of *Genesis*, about the creation of the "world, were taken from *Egyptian* traditions;" but among the numerous citations from *Simplicius* no such passage is to be found in Dr. Cudworth. Dr. Cudworth, therefore, being out of the question, the whole of Lord Bolingbroke's accusation, rests on the authority of *Simplicius*; and what credit is due to his testimony, we learn from the Authors of the *Universal History*, (for *there* the passage is to be found) who speaking of the *Egyptian Cosmogony*, say, "We cannot omit observing, that it was thought to be so "notorious and confessed a thing, that the *Egyptians* held the "world not only to have had a beginning, but also to have been "made by God; that *Simplicius*, a zealous contender for the "world's eternity, affirms the *Mosaic* history of the creation of "the world by *God*, to have been nothing else but a fabulous "tradition, and wholly drawn from *Egyptian* fables (2)."

But leaving these dogmatical assertions of *Simplicius* and *Bolingbroke*, and taking reason and the nature of things for our guides, let us attempt to trace this general notion of a *fluid chaos*, as far as they will carry us; we then, perhaps, may see, whether it points up to an *Egyptian*, or to a much higher, original.

Though the human mind be capable of concluding with certainty, from the visible frame of the universe, that it must necessarily have been formed, by a Being of infinite Power, Wisdom, and Goodness, yet to frame any idea of its generation, or of the generation of a single planet, is as much beyond the powers of

(1) Vol. V. p. 47.

(2) *Universal History*, Vol. I. p. 28. Edit. 8vo.

the most exalted human understanding, as it is for such a limited intelligence to conceive, how a Being of unlimited power, exerts that power, in any one act of omnipotence. The several systems which compose that mighty whole, the Universe, may have been formed separately, or together; they may have been made out of pre-existent matter, prepared for these purposes by the almighty agent; or they may have been immediately commanded into being, from a state of non-existence: for we cannot say that God, the supreme Being, is Almighty, if he could not effect, what he willed to effect, in one way, or in another, as he, in his infinite Wisdom should choose. Now it is impossible, from the frame of the universe, to know, whether the several systems were formed separately, or otherwise; or whether the several masses of matter, of which the suns, and their planets, &c. consist, were first created, and then reduced into those forms, and disposed into that regular order, in which we now behold them. And on the supposition of a *fluid chaos*, (however general the notion has been) it is impossible to know, whether the whole, was formed from one universal confused mass; or whether the several suns, and their respective planets and comets, were not each of them first produced, by the Creator, in a chaotic state, and afterwards fitted for all the mechanical purposes of them, before he formed them into Systems. And it is equally impossible for us, from the constitution of our System, to know, whether it was produced from one grand *chaos*, or from as many, as are the bodies of which it is composed.

Since, therefore, this notion of a *fluid chaos*, has been so general, that there is no sect, or nation, whatever, that does not derive their Διακοσμησις, the structure of their world, from a *chaos*; and since there is nothing in the constitution of things, that could possibly lead mankind into this notion; nothing that could lead the ancient Philosophers or Poets, to make *water*, or a *fluid chaos*,
(as

(as the *Greek* word signifies) rather than *fire*, the first principle (1); since, I say, the notion could not be taught by nature, it must have been originally derived from revelation: nor can it be conceived, that it should have prevailed so universally, but by as universal a tradition, from some original revelation: and since the same arguments will prove, against *Moses*, as against the antient Philosophers and Poets, that he could not have learned this notion of a *fluid chaos*, from any thing in nature, it necessarily follows, that his account of the *chaotic* state of our earth, must have been communicated to him, mediately, or immediately, by the Creator: now tradition has always a manifest relation to some fact; and, therefore, necessarily supposes the fact, to which it refers, to have been prior to the tradition; for from *nothing*, from *no fact*, nothing can be handed down to us. Now that the *Mosaic chaos*, is a description of an historical fact, preserved in the account of the beginning of things, in the first of *Genesis*, from which, by tradition, the notion of a *fluid chaos* became general, will be made abundantly evident, from another very antient *traditionary doctrine*, which both the *Greeks*, and *Barbarians*, have so mixed and interwoven with the notion of a *fluid chaos*, that they have made them inseparable one from the other; what I mean, is,

(1) As the chaos of these antient Philosophers and Poets was, by supposition, prior to their gods, that is, to the sun, and all the heavenly bodies, and from which they were generated; it was equally absurd in them, to make *water*, the first principle, as it would have been to have ascribed the beginning of things, to *fire*; because, as the one is destructive of the other, water could no more have been the parent of fire, than fire could have produced water. But as the sun is a globe of fire, the strongest evidence of the absurdity of its being produced from water is, the vastness of its body, in proportion to the other bodies in his system; for, on a comparison of its diameter, with the aggregate of the diameters of all the primary planets, that roll about him, it will appear, that the diameter of the sun is, by computation, 822,148 miles; whereas the sum of all their diameters, is no more than 233,784 miles; so that the quantity of visible fire (whatever portions of that element may be disseminated throughout the bodies of the planets themselves) is more than treble the quantity, of earth (or matter similar to earth, and water in the whole system.

The Doctrine of the MUNDANE EGG.

The learned Authors of the *Universal History* observe, "That
 " *Orpheus*, among other *Eastern* learning, seems to have first in-
 " troduced among the *Greeks*, the Doctrine of the MUNDANE
 " EGG, which, in all probability, he learned from the *Egyptians*,
 " who represented the world, by that symbol, as many other
 " antient nations did. The *Phœnicians* made their *Zophasemin*,
 " which were the celestial bodies, *oviform*; and worshipped an
 " EGG, in the *Orgia* of *Bacchus*, as an image of the world. And
 " the same comparifon or refemblance was made ufe of by the
 " *Chaldeans*, *Persians*, *Indians*, and *Chinese*; and this not only
 " for its external figure, but alfo for the inward compofition of
 " it; the fhell representing the heaven, the white the air, and
 " the yolk the earth.—Hence *Plutarch* obferves, that the quef-
 " tion, which was the elder, the *Egg*, or the *Hen*, was not a trivial
 " inquiry; but according to the *Orphic* doctrine, comprehended the
 " antient generation of all things: and the Author of the hymns
 " attributed to *Orpheus* makes the firft-born god, named by the
 " *Greeks*, PHANES, to be produced from an *Egg*. This was the firft-
 " begotten god, mentioned by *Athenagoras*, to have been hatched
 " from the *Egg*, as the followers of *Orpheus* taught (1)." "An
 " *Egg*, (fays Lord *Bolingbroke*) was the famous fymbol of the ge-
 " neration, as well as figure of the world; and the *Thebans*, who
 " were the moft antient *Egyptian* Dynafty, had an hieroglyphical
 " representation of the Divinity, with an *Egg* coming out of his
 " mouth; which fymbol of an *Egg*, was adopted by the *Phœnici-*
 " *ans*, and by the *Persians*, and became an object of worfhip in
 " the *Orgia*, or myfteries of *Bacchus* (2)."

But whence had the *Egyptians* this famous doctrine? This
 furely is not a *trivial inquiry*. There muft have been fome uncom-

(1) *Universal History*, Vol. I. 34.(2) *Bolin. Poft. Works*, Vol. V. 250.

mon foundation for so very extraordinary a symbol, among a people, who were very early, and, to a proverb, famous for wisdom and learning: and since this doctrine of the EGG is almost as general as that of a FLUID CHAOS, and, as we shall soon see, so closely connected with it, it is perhaps more than probable, that they had the same original; that is, that they were both derived from the same original historical fact, or the circumstances that attended such fact.

It is well known, that “The *Theogonia* of the ancient Pagans, “their *Genesis* and generation of gods, was really one and the “same thing with the *Cosmogonia*, the *Genesis* and generation of “the world, and indeed both of them understood of a temporary “production both of these gods and the world (1).” “The same “thing is sufficiently manifest also—from *Hesiod*’s own *Theogonia*,” “—where we plainly see, that the generation of the gods, is the “generation of the earth, heaven, stars, seas, rivers, &c. (2) “But there is a much more methodical and complete description “of this ancient *Cosmogony*, given by *Aristophanes*, (*in Avibus*) “whencesoever he had it. He writes, that first were *chaos*, black “*Erebus*, and wide *Tartarus*, but neither earth, nor air, nor heaven: that night, with sable wings, laid the first *Egg* of wind in “the vast bosom of *Erebus*; from whence, in process of time, issued amiable *Love*, shining with wings of gold, like to impetuous “whirlwinds; that *Love*, coupling with the obscure *chaos*, ingendered animals and men; but that there were no gods before *Love* mingled all things, from which mixture of things “one with another, the heaven and the earth were generated, “and the whole race of immortal gods (3).

Now abstracting from this wonderful story of the *Egg*, of which *Moses* is absolutely silent, (and his silence is a demonstration of

(1) Cudworth’s Intellectual System, Vol. I. p. 234. second edition.

(2) Id. *ibid*, p. 238.

(3) Universal Hist. Vol. I. p. 36.

the priority of the notion of a *chaos*, to the doctrine of the *Mundane Egg*;) the *chaos* of *Aristophanes*, as a *chaos*, is manifestly the same with the *Mosaic* account, of the state of things, before the formation of any of the bodies of the Solar System; when there were neither earth, nor air, nor heaven: they are both described, a dark, confused, heterogeneous mixture of things, without any form or regularity; but there is one remarkable circumstance, in which they differ extremely. The *chaos* of *Moses*, is confined expressly, to our earth; though when the Historian had given us the divine process of its formation, he attributes a similar state of things, to the sun, and to every planet in the System (1), whereas the *chaos* of the *Poet* extends to the utmost limits of the universe (2). But this difference is easily to be accounted for, it being the very same, as the difference between the *chaos* of *Moses*, and that of his most antient interpreters: *Moses* introduces his *chaotic* state of the earth, by asserting that, *In the beginning God created the heavens and the earth: and the earth was without form and void, and darkness was upon the face of the deep.* By the heavens and the earth, these antient interpreters understood, the wide extended universe; in consequence of this interpretation, *tradition*, very early applied to the whole universe, what *Moses* had said of the earth, that *it was without form and void, and darkness was upon the face of the deep*: hence, the *Poet's* wide *Tartarus*, and the vast bosom of *Erebus*.

Thus far, then, *Aristophanes* agrees with *Moses*, in the notion of a *fluid chaos*; and with his interpreters, in its extent. But the grand difference between the two *Cosmogonies*, (which we hinted

(1) See chap. IV. of the formation of the System.

(2) See its description, in the text. In like manner *Sanhoniatho* the *Phœnician* historian, affirms, "that the principle of the universe was a dark and windy air, or a wind made of dark air, and a turbulent evening *chaos*; and that *these things* were boundless, and for a long time had no bound or figure." Dr. *Cumberland's* *Sanhoniatho's Phœnician history*, p. 18.

above) is, that *Moses* was an absolute stranger to the doctrine of the *Mundane Egg*. Now if “ *Orpheus*, who seems to have first introduced among the *Greeks* this doctrine, learned it from the *Egyptians*, who represented the world by that symbol, as many other antient nations did: or if he had learned it from the *Phœnicians*, who made their *Zophasemin*, which were the celestial bodies, *oviform*; since the notion of a *fluid chaos*, and the doctrine of the *Mundane Egg*, were inseparably connected in their *Cosmogonies*, it is impossible, that *Moses* should have borrowed his *fluid chaos*, from the *Egyptians*, or from any other antient nation, unless he had learned from them, this doctrine of the *Egg*: and therefore, not only the notion of a *chaos*, was elder than the doctrine of the *Egg*, but the writer, who has founded his *Cosmogony*, in a *chaos*, without the least intimation of a *Mundane Egg*, must have been prior, to all other antient writers, who have taught this strange doctrine.

But though *Moses* knew nothing of this doctrine, his most antient interpreters have made him the author of another, viz. the doctrine of *Incubation* (1); which in a history of creation, naturally leads to the original, of this traditionary doctrine of a *Mundane Egg*. For, though the first act of the divine Power, in the formation of the earth from its *chaos*, is beautifully and strongly expressive, of God’s communicating to it, a diurnal motion,—*And the Spirit of God moved* [impressed a violent motion] *upon the face* [the surface] *of the waters*; yet these interpreters have taken away the agency of an active principle, by asserting that this Spirit of God was no other than, the AIR, or WIND of God; that is, a MIGHTY WIND (2), that moved upon the surface of the watery *chaos*;

(1) Of this doctrine of Incubation, fathered on *Moses*, by his interpreters, and the connexion between it and the *Orphic* doctrine, see *Moses and Bolingbroke*, p. 27—31.

(2) *Plerique Hebræorum ventum elementalem, intelligunt, ob vehementiam dictum ventum Dei, ut montes Dei, et Ninive dicitur civitas magna Dei, (nam quod Deo magnum, id*
sunt

chaos; and that the motion of this mighty wind, had a manifest allusion to the action of *Incubation* (1), which doctrine is also taught by those who allow this Spirit to be an active principle.

sane magnum sit oportet.) Poli Synopf. "The Spirit, or Air, of God, moved upon the face of the waters; the original word, which in our translation we render Spirit, equally signifying either Spirit, or Air, or Wind, or Breath—And as for this atmosphere being called, the Air of God, it is a method of speaking common to the Hebrews, whenever they had a mind to express any thing, that was high, elevated, or eminent in its kind, to call it a thing of God,—the mountains of God,—the cedars of God;—the atmosphere, therefore, may well be called, the air of God, on account of its elevation, and the great height of its expansion, over the surface of the waters. And that the Jews understood this passage in this sense, appeareth plainly, from the Chaldee paraphrase of the learned Onkelos, on this verse—And the air BLEW from GOD on the surface of the waters, which continueth to be the common opinion among the Jews; and was also the opinion of Tertullian and Theodoret." Dr. Clayton's Vindication of the History of the Old and New Testament. Part II. p. 48.

(1) "Dicitur in creatione Dei Spiritus motitasse se super faciem aquarum, nempe ut incubatione sua vim vivificam aquis inderet, ut ex ijs cætera emergerent." Bocharti Hierozoic.

"Ut volucres primum pendulæ volitant, super ova et pullos, deinde iis incubant, calorem aspirant, foveant, animant: Ita Spiritus Sanctus vitali infuso calore, prolificam vim aquis largiebatur." Poli Synopf.

"It is a metaphor from birds hovering over, and sitting upon, their eggs, and young ones, to cherish, warm, and quicken them." Pool's Annot.

"The word we have translated moved, signifies literally brooded upon the waters, as a hen doth upon her eggs:—Now the Spirit of God moved upon the waters, that by its Incubation (as we may call it) it might not only separate—those parts which were jumbled together, but give a vivific virtue to them, to produce what was contained in them." Patrick's Commentaries.

Thou, O Spirit—

Thou from the first
Wast present, and with mighty wings out-spread
Dove-like, sat'st brooding on the vast abyss,
And mad'st it pregnant.

MILTON.

Now

Now if this motion of the air, or wind, or even of the Spirit of God, upon the surface of the watery *chaos*, has, from so remote antiquity, been thought to allude, and refer, to *Incubation*, and if *Incubation* be the action of a hen, or any other bird, brooding upon her eggs, can we be at a loss to discover, whence *Aristophanes* had his *Cosmogony*, when we find the traces, of such a gross interpretation, preserved in a Pagan Poet? Does not the doctrine of the *Mundane Egg*, naturally flow, from this supposed doctrine of *Incubation*?

To justify this sentiment, let us compare the description of the antient *Cosmogony* given by *Aristophanes*, with this doctrine of *Incubation*, as it is taught by the interpreters of *Moses*. In order to this we must take the liberty of giving the description in the original.

Χαῖν, καὶ νύξ, ἐρεβός τε μελαν πρῶτον· καὶ Τάρταρος· εὐρύς·
 Γῆ δ' ἔδ' ἀήρ, οὐδ' οὐρανός· ἢν· ἐρεβός δ' ἐν ἀπειροσι κόλποις
 Τικτεῖ πρῶτιστον ὑπνέμιον νύξ ἢ μελανοπτερὸς ὦν·
 Ἐξ ἧ περιτελλομεναῖς ὥραις ἐβλάσεν Ἐρως ὁ ποθεῖν·
 Στιλβὼν νῶτον πτέρυγιν χρυσαῖν, εἰκὼς ἀνεμῶκεσι διναῖς·
 Οὐδὲ χάει πτεροῦντι μιγείν νυχίῳ, κατὰ Τάρταρον εὐρύν,
 Ἐγεοττεύσε γενεὴν ἡμετέραν, καὶ πρῶτον ἀνηγαγεν εἰς φῶς,
 Πρῶτον δ' οὐκ ἦν γενεὴ ἀθανάτων, πρὶν Ἐρως συνεμιξεν ἀπάντα.

Now as “ this passage, which is conceived, not without reason, “ to have been a piece of the old atheistic system, is ludicrously “ introduced in a comedy (1);” the Poet could not, in all nature, have furnished himself with such a foundation for his fable, as this metaphor from *Incubation*, afforded him: and what bounds could be set to a fruitful imagination, where his subject had no bounds? Here was a *chaos*, and *darkness*, *infinite*, *coeval*, and

(1) Universal History, Vol. I. p. 37.

prior to any other being, gods or men; the Poet, therefore, had nothing more to do, than to follow the tradition, from the earliest antiquity, concerning this MIGHTY WIND, *sitting* and *brooding* over the INFINITE, DARK, ABYSS, and to carry on the prolific metaphor.

Accordingly, DARKNESS, or in the poetic style, NIGHT, is introduced, in the only character in nature, proper to *Incubation*, as a bird; Νύξ μελανοπτερά, her wings are black, as darkness itself; and as *Incubation* necessarily supposes one Egg, at least; this bird lays a most wonderful one; ὑπνηνέμιον ὄον not an EGG of WIND, according to the sense of this passage given above (1), for with great deference to those learned Gentlemen, it cannot easily be imagined, that the Poet would use the word ὑπνηνέμιον, in a sense, that was absolutely inconsistent with the design of his fable: if Night was to lay this first Egg, is it possible, that it should be an EGG of WIND, when he makes it a most prolific one? It is true, ὑπνηνέμια ὄα, are *Ova ventosa, irrita, addle Eggs*; thus *Aristophanes* himself, in his *Dædalus*, πολλαί των ἀλεχίρουνων βια ὑπνηνέμια τικίθουσιν ὡς πολλακίς: but here, the Poet, in the use of the word, keeping in his view, the antient tradition, of a mighty and impetuous wind, hovering over an infinite dark abyss, seems to have preserved the original, and literal sense; ὑπνηνέμιοι ὑπο τον άνεμον Suidas: to which the editor adds, the following note: ὑπνηνέμιοι, scribe, ὑπνηνέμοι *Sophocles, Antigone*, l. 417.

Καθημεθ' ἀκρων ἐκ παγων ὑπνηνέμοι
Consedimus locis in summis sub ventum.

Scholiasies. ὑπνηνέμοι· ἀντί τῶ ὑπο τον άνεμον· ἐκ ἐναγλίον τῶ άνεμοῦ.

Now this original, literal, sense of the word ὑπνηνέμιον, UNDER THE WIND, sets the passage, obscure as it is, in a very different

point of view, and renders it expressive of that part of the antient tradition, which teaches, that it was a *mighty Wind*, that moved upon, and hovered over, the dark watery *chaos*—*Night with sable wings, laid the first Egg under the Wind, in the vast bosom of Erebus.*

But, to proceed ; as this Egg was, by supposition, prior to every other Being, one might have expected that it should have contained, in its infinite shell, every thing that was to have existed ; but as it was an absurdity too great, for atheism itself, to have supposed, that every thing in nature could proceed from NOTHING ; (for night and darkness are mere negations of being ;) from this wonderful Egg, the Poet says, in process of time, περιτελλομεναις ωραις Scil. ωραις Ἐπωασμῶν, at the end of the time of *Incubation*, proceeded an active principle, (for that must have been an active principle, from which every thing in nature was to derive its being,) by the name of, Ἔρως ὁ ποθεινός, amiable Love, which by its all-powerful influence on the dark, unbounded abyss, gave being both to gods and men.

And now the Poet's imagination begins to glow, with the fire stolen from off the altar of *Moses*. *The Spirit of God*, (says *Moses*) moved, impressed a violent motion, upon the surface of the waters, that were immersed in darkness : instead of this active principle, this almighty agent ; his interpreters, and from them, the most antient tradition, have introduced a *mighty*, and *impetuous Wind*, moving upon, and hovering over the dark abyss, to quicken and vivify the watery *chaos*, for the production of things. And here the active principle of the Poet appears, εἰκὼς ανεμωχασί διναίς (1), in the likeness of a *mighty Wind*, the most impetuous of winds : the expression is very *Mosaical* (2) ; (as interpreters have made it *Mosaical*) the wind of God—a *mighty Wind*.

(1) Δινα, it is true, signifies, a *whirlwind*, which as it moves circularly, was the most proper word, to express its effects, in mixing all things in the unbounded *chaos*.

(2) See p. 32.

When a fable is founded on tradition, from an historical fact, or facts, misrepresented or misunderstood, it must be expected that confusion will have some place in the composition. "The *Cosmogony* of *Hesiod*, is somewhat confused, beginning twice "from the *chaos* (1)." In the same manner our Poet begins his, twice, from a *Bird*. But there was, perhaps, a reason for this conduct; as his fable began with wings, it was necessary it should end in character: he had furnished *Night*, with *fable wings*; before, therefore, he could with any propriety say, that amiable Love coupled with the obscure *chaos*, he gives this active principle, *wings of gold*; when mixing with the fable-winged, wide-extended *chaos*, it ἐνεστρεψε γενῶν ἡμετέρων, brooded over, and hatched the race of mankind, and all the immortal gods. Thus, as the fable was originally founded on, it is finished by, this wonderful doctrine of INCUBATION. And thus it appears, that the *Cosmogony*, and the *Theogony* of the Poet is the same.

By this time the candid, and unprejudiced Reader, will be able to judge, which of the two has the best title to priority, the *Mosaic*, or the *Egyptian, fluid chaos*. Were the late noble Lord now living, we could venture to appeal, even to his Lordship, whether it was possible for *Moses*, to borrow his plain, simple, rational, account of the beginning of things, from *nothing*, from a state of *non-existence*, by the agency of Omnipotence; and of the state of our earth, whilst it was a mere mass of unformed matter, before any separation of its earthy and watery parts was produced, by the same almighty Power; whether, I say, it was possible for *Moses* to borrow his account, from a wild, extravagant, and unintelligible fable, of the original chaotic state of the universe; that is, of innumerable worlds, even systems of worlds, when such an immense *chaos* never existed, except in the imagination of Philosophers and Poets?

(1) Universal History, Vol. I. p. 36.

But to conclude, this necessary digression from our main design; if ever there was a *fluid chaos*, as *Moses* in a professed history of creation, has expressly declared, on the authority of the Creator; and if tradition, universally, and *Aristophanes*, in particular, on the credit of universal tradition, attest to the truth of such a fact, (and tradition necessarily supposes some preceding fact,) let us strip this account of the *chaos*, of its poetical dress, and separate the *fact*, from the *fable*, and it will appear, that the *Egyptians*, and other antient nations, have borrowed the notion of a *fluid chaos*, by tradition, from the one, particular, original fact, preserved in the writings of the Author of the book of *Genesis*. But the demonstration of so interesting a truth is reserved to the next chapter.

C H A P. IV.

Of the Formation of the System.

Jam constat omnibus, tellurem esse Planetam; multosque esse Planetas, præter tellurem, ejusdem indolis, similisque materiæ et formæ: quos omnes probabile est, eundem, habuisse suæ originis modum et principium: nempe, unumquemque ortum esse e suo chaos.——sin coævus feceris, tot oportebit supponere chaos, quot sunt primarii Planetæ. *Burnet. Archæol. p. 413.*

The First Day.

HAVING traced the general notion of a *fluid chaos*, up to its original, we come now to the Formation of the System, on the true *Mosaic* doctrine of the *chaos*, as contained in our fourth proposition;

PROP. IV.

“ That these several masses of matter, [of which the heavens,
 “ the heavenly bodies, and the earth, do consist] were, at their
 “ creation, in a chaotic state; each of them a distinct *fluid chaos*;
 “ without any form, except what arose from that particular gra-
 “ vity, or tendency of their several particles, to the centres of
 “ their respective masses, which the Creator seems to have im-
 “ pressed on them, at the beginning.”

For, if in the beginning, God created the heavenly bodies, the Sun, the Moon, and the other planets, &c. when he created the Earth; and if the Earth, at its creation, was without form and void, a mere confused mass of matter, whose surface, and parts contiguous, to a considerable depth, were water; (for darkness was upon the face, the surface of the DEEP;) it is very natural
 to

to suppose that these heavenly bodies, the sun, the moon, and the other planets, &c. which from a similar state of non-existence, were commanded into being, at the same time with the earth, came out of the hands of the Creator, in similar circumstances; that is, that they likewise, were without form and void, mere confused masses of matter, whose surfaces, and parts contiguous, to a considerable depth, were water. It is natural, I say, to suppose, this was the case; but it is much more than a supposition: for, when *Moses* had given us the particulars of the divine process, in the creation, and the formation, of the several bodies in the system, he sums up the whole, in one comprehensive word (1)—THUS, —THUS, the heavens, the heavenly bodies, and the earth were finished,

(1) Gen. II. 1. Or THUS, the heavens, the heavenly bodies, even all the *host* of them, and the earth were finished. See the paraphrase. But here, perhaps, we shall be told by some critic, that the *vau*, which our translators have rendered THUS, should have been translated, as the *Septuagint* have it, AND; and the heavens and the earth were finished. But as among the various senses of the *Hebrew*, *vau*, (and so of the *Greek Kai*,) which can be determined only by the context, it is, not infrequently, expressive of the manner of an action; and answers to, *sic, ita, in hunc modum*. 1 Sam. XXX. 18. Thus David recovered all;—2 Kings V. 27.—Thus he went out from his presence;—Ezek. IV. 5.—So shalt thou bear the iniquity;—Matth. XV. 6. Thus have ye made—XXVII. 64. So the last error shall be worse than the first. So *Moses*, by repeating the same sentiment in the context, in other, but very emphatical language, has fixed the sense of the particle to—Thus,—in the same manner as; THESE are the generations of the heavens, and of the earth, when they were created, in the day that the Lord God made the earth, and the heavens, chap. II. 4. The transposition of the words *heavens* and *earth*, in the same verse, is very remarkable; *Moses* does not say, in the day that the Lord God made the heavens and the earth, which would sound like a vain tautology, but the earth and the heavens: for excepting God's giving the earth its diurnal motion, and at the same time preparing the light, even the sun, by making it a globe of fire, on the first day; the apparent subject of the other five days work, according to the letter of *Moses*, was, the making of the earth. As if he had said, thus have I given a general account of the creation of the bodies of the sun, the moon, and all the planets, &c. and the particulars of the formation of the sun, and of every planet, which by the same regular, and gradual process, as the earth underwent, were reduced into the order, in which they now appear. And as this interpretation

finished, even all the host of them. Thus, that is, in the same manner, and on the same days of ~~our~~ earth, as he had particularly specified in his first chapter.

Now,

pretation is confirmed by the repeated expressions of *Moses*, concerning the extent of the creation; *God saw every thing that he had made*, ch. I. 31.—*God ended his work; —his work which he had made*: II. 2.—*all his work which God created to make*, ver. 3. And here, (if the Reader will excuse the length of this note) we cannot omit to observe, that from these last cited words, it is evident, that ALL GOD'S WORK, was not, could not possibly be, (as Mr. *Whiston* asserts,) his making our single earth. "The *Mosaic* creation, is not a nice and philosophical account of the " origin of all things; but an historical and true representation of *the formation of* " *our single earth* out of a confused chaos, and of the successive and visible changes " thereof each day, till it became the habitation of mankind." *Whiston's Theory*, p. 3. second edition. The first false step that this learned Gentleman took, and which naturally led him into such a labyrinth of error, concerning the *Mosaic* creation, was, his totally excluding the very first words of *Moses*, from *the six days work*, " The very first words of *Moses* plainly imply that the production of all things out " of nothing was precedaneous to the six days work." (Id. p. 4.) The answer to this is short, *Moses* says, *In the beginning God created the heaven and the earth*: *Whiston* says, *Before the beginning God created the heaven and the earth*. The words of *Moses* are express, that in *six days*, the Lord made heaven and earth; Exod. XX. *Whiston* insists, that in six days the Lord made, *not the heaven and the earth*, but *our single earth*. In the same manner is the account of creation confined, (by the late learned and very Reverend Doctor Clayton, Bishop of Clogher) to this earth, and its atmosphere. " *In the beginning God created the heaven and the earth*, that is, in the beginning of the creation of this world, God created the materials of which this " terraqueous globe, together with its incumbent atmosphere, were composed; for " as I take it for granted, that by the word EARTH, *Moses* meaneth this terraqueous " globe, which we inhabit, so by the word HEAVEN, I suppose, he means, only that " atmosphere or firmament of air which surroundeth this globe of earth, and which " God called *heaven*, it being the same word in the original, that is used in both " places." *Vindication of the History of the Old and New Testament*, Part II. p. 43. Similar to this interpretation is that of the late Reverend Doctor Jennings, who, (mistaking the first words of *Moses*, for " the title, or general contents, of the " whole following account, as Mr. *Whiston* had, for " the preface to the *Mosaic* " creation,") as positively asserts, that they " expressly limit it to the Mundane " creation, even the *heaven* and the *earth*. And by the *heaven* in this chapter, is " meant nothing but the *firmament*, or air, which supports the clouds, as appears from

Now, if the several bodies were finished in the manner, and in the same portions of time, specified in his account of the six days work, the changes through which they severally passed, in their formation, must have been the same, through which the body of the earth passed, from day to day, till it was finished.

“ from ver. 7. and 8. *God made the firmament and divided the waters which were under the firmament, from the waters that were above the firmament, and he called the firmament HEAVEN.* The *Mosaic* account of the creation seems plainly therefore, to be a designed account of the creation of this planet only, viz. the earth and its atmosphere, with its various furniture; the sun, and many, at least, of the stars being, it may be, created before. Though it is not unlikely, that the moon, being a constant attendant on the earth, and designed, in a good measure, for the use of it, was created at the same time.” (*Appendix to the Use of the Globes*, p. 127.)

Though the particular proofs we have brought for the true *Mosaic* sense, and use, of the word *heaven*, or *heavens*, are sufficient to establish the superior authority of the divine Writer, in this material point; it will not be improper, in answer to his Lordship to shew, that if there were no such particular proofs, his interpretation is entirely founded on a supposition, which has no other support than an assumption of his own, that is inconsistent with the interpretation of these very words, that his Lordship gives in the sentence immediately preceding this assumption. “ *In the beginning God created the heaven and the earth*; that is,—God created the materials, of which this terraqueous globe, together with its incumbent atmosphere, were composed.” (*ut supra*) Now it is very evident, that by the word *Earth*, *Moses* could not mean this terraqueous globe, because, by his Lordship’s confession, it was not a terraqueous globe, but only the materials of which it, and its incumbent atmosphere, were composed. For when the materials, the matter, was created, it was *without form*, and therefore could not be a *terraqeous globe*, till the Creator had induced that *form*, but a mere *chaos*. And as his Lordship’s notion of the heaven, being nothing but the atmosphere, is built upon this groundless supposition, and by the word *Earth*, *Moses* could not mean our terraqueous globe, it is impossible, that by the word *Heaven*, he could mean the *atmosphere*, because there was, as yet, no terraqueous globe, and consequently there could be no heaven, no atmosphere to surround what was not.

On the reasoning of the other learned Gentleman, let it be observed; that if, because “ *God called the firmament heaven*,” it follows, that “ the words, *In the beginning God created the heaven and the earth*, limit the *Mosaic* account to the creation of the earth and its atmosphere;” then because God called the dry land earth, it will just as consequentially follow, that these words limit the *Mosaic* account to the

finished. It is true, the sun being a body, *sui generis*, and from its peculiar nature, and use, in the System, required a change peculiar to itself, which was effected by God's saying,—*Let there be light*—and instantaneously the body of the sun became a globe of fire; *and there was light*; yet as there are several phænomena, in the body of the sun, similar to those that appear in the earth

creation of the *dry land*, (exclusive of the waters) and the firmament, or air that supports the clouds. But to put an end to this disagreeable note: it is very evident, that in whatever sense the words, *heaven* and *earth*, are to be understood in chap. I. 1, whether by *Moses*, or his interpreters, they must have the same meaning in chap. II. 1, 4. Let us try how these several passages will bear these interpretations.

DR. CLAYTON.

Gen. I. 1. In the beginning God created the atmosphere, or firmament of air, and the terraqueous globe.

II. 1. Thus the atmosphere, or firmament of air, and the terraqueous globe were finished, and all the host of them.

4. These are the generations of the atmosphere or firmament of air, and the terraqueous globe, when they were created, in the day that the Lord God created the terraqueous globe and the atmosphere or firmament of air.

DR. JENNINGS.

Gen. I. 1. In the beginning God created the firmament, or air that supports the clouds, and the earth.

II. 1. Thus the firmament, or air that supports the clouds, and the earth were finished, and all the host of them.

4. These are the generations of the firmament, or air that supports the clouds.

On the same sandy foundation is built that most unintelligible hypothesis of "that truly learned and useful Author, John Hutchinson, Esq;" (as his editors style him) though he has greatly improved on the notion of these Gentlemen: they allow only one atmosphere, or body of air to our earth; and then modestly say, In the beginning, God created this air, and the earth; but this learned esquire, in contradiction to scripture, reason, and common sense, insists, that in the beginning God created THE AIRS, and this earth, that is, more atmospheres to the earth than one; for that is a necessary consequence to his taking the firmament or expanse, for heaven, (which is indeed the true *Mosaic* sense of the word,) and then giving the word AIR, a plural form, in which it never yet appeared, in any language.

and the other planets, the body of the sun must have passed through the same changes, as the earth, and the other bodies of the System did, to produce similar phenomena. Now if the other bodies passed through the same changes, (except as above excepted,) the state in which these bodies were, at their creation; that is, before any change had passed on them, must have been the same: but the earth at its creation, before it suffered any change, was without form and void, and darkness was upon the face of its deep; upon its fluid surface; the sun therefore, and the other heavenly bodies, must have been in the same state; each of them without form and void; darkness must have been upon the face of each of them; and as it was the fluid surface of the earth, that was covered with darkness, the surfaces of every body in the System, must have been in a fluid state.

Now that the body of the sun was, at its creation, without form, and void of light and heat, is evident, because darkness was upon the fluid surface of the earth, and consequently on the fluid surfaces of every body, that was in the beginning created with the earth, agreeable to Prop. VI. "That the immense mass
" of matter, of which the body of the sun consists, was, [by
" Prop. IV.] in a chaotic state, void of motion, light, and heat;
" darkness must necessarily have been upon its fluid surface; and
" consequently, upon the fluid surfaces of every body in the Sys-
" tem." And that every other of the heavenly bodies, were without form, is evident, because they were all formed in the same manner, as the earth was formed, [Prop. X.]

This proposition needs no other proof, than the application of these several changes, to the sun, and every primary planet. We shall instance in the application of this doctrine to the sun.

G 2

In

In the beginning, God created the heavenly bodies (for the earth is a heavenly body, to every primary planet) and the sun. *And the sun was without form, and void, and darkness was upon the face of the deep: and the Spirit of God moved, impressed a violent motion, upon the face of the waters; upon its fluid surface. And God said, Let there be light;—and the immense body of the sun, instantaneously became a globe of fire—and there was light.*

Though we would not lay too great a stress, on the bare etymology of a word, because various, and contradictory opinions have been founded, on as various and contradictory derivations of the same word; (a more lively and remarkable instance of which the Reader will hardly find, than in the word before us;) yet if we look into the primary signification, of the word *heaven*, or *heavens*, in the original, we may, perhaps, discover a very striking reason for the name, previous to the formation of the sun, the moon, and the other planets; and consequently before the existence of the *firmament*, or atmosphere, of the earth, which God called *heaven*. This reason, we apprehend, is discovered by *Moses*, in the very name שמים composed of two radical words, which seem plainly to *point* out to us the nature of those bodies, to which the word was first applied, viz. שם there מים [are] waters (1).

(1) *Buxtorf* derives the word, from the same root, though his reason for the name, is as wide from the truth, as is his notion of the thing. שמים *cælum, coeli, formam habet dualem, quasi a מים ab aquis, quæ duplices sunt superiores et inferiores. Hinc etiam, compositum volunt quasi ex שם illic, מים aqua.* But suppose the word in the dual form, it can be no reason, for the etymology of a word, that was given to a number of bodies, before their could be any superior and inferior waters; before any atmosphere was formed to any of those bodies, which alone could divide the waters from the waters. The firmament, it is true, is called by him that made it, *heaven*, but for a very different reason; viz. because these bodies were to be set, or placed, in this heaven; and therefore they are stiled the *host of heaven*, and we call them heavenly bodies, (see p. 24.) And what will confirm this reasoning, is, (as we shall soon see) that every planet in the System is furnished with a firmament or heaven; and therefore as our earth is set, or placed, in the heaven of each of them, she is a heavenly body to them, as they are heavenlybodies to us.

Now if the word שמים heaven, or heavens, be plainly derived from a root, which manifestly signifies water, and if the heavens, the heavenly bodies, that is, if the several masses of matter of which these heavens, these heavenly bodies, the sun, the moon, and the planets do consist, were, at their creation, each of them a *fluid chaos*, as the earth was; can it be doubted, that the Creator gave them this significant name, to discover to mankind the true state and condition, in which these bodies were created, before he had exerted any single act of his almighty Wisdom and Power in the formation of any one body in the System? If therefore, as we have elsewhere demonstrated (1), the *Mosaic* account of creation, may, with the same historical truth, be applied to *Jupiter*, and the other primary planets, as to the *Earth*; (and in every such application, the earth would be a heavenly body to *Jupiter*, and to the other primary planets;) and if the body of the earth was surrounded with water; (for the Spirit of God moved, impressed a violent motion, upon the *face*, the surface of the waters;) and if the waters on the surface of the earth, were of a considerable depth, (for darkness was over the face, the surface, of the *deep*;) it is evident, that no word in the whole compass of language, could so well have expressed, or with so much force, elegance, and propriety, have pointed out the true state and condition of the several bodies of the Solar, or Planetary System, as this, that is derived from water.

But the sun, and every planet, &c. were not only void of light and heat, but of motion too. For as motion is not essential to matter, they must necessarily have been at rest, till they should have been put into motion by some power acting upon them. For, by the first law of motion, "All bodies have such an inclination to rest, or motion, that if once at rest, they remain

(1) *Moses and Bolingbroke*, p. 55.

" so,

“ so, till disturbed by some power acting upon them.” But the “ earth, by name, was disturbed by the *Spirit* of God, acting upon it. *And the Spirit of God moved* (1), [impressed a violent motion] *upon the face, [the surface] of the waters* (2). As it is very evident, that he alone who made, could move the mighty mass; this first act of the divine Power, in the formation of the System, is justly ascribed to the SPIRIT of GOD. And as the surface of the earth manifestly moves from west to east, it must have had a beginning of that motion: and as the surfaces of the sun and the planets, have a similar motion, they likewise must have had a beginning to their motions: but they had the same beginning of their existence with the earth; were, at their creation, in similar circumstances; were finished in the same manner, and within the same periods of time, in every particular of their formation, which corresponded with the changes wrought on the earth, from day to day; they must have had the same beginning of this motion; and, therefore, by the same Almighty Mover, the same quantity of motion with which they are now impelled, was impressed on the sun, and every planet in the System. A standing proof of the justness of this conclusion, is, that not only the earth, but the sun, and every planet, from being, at their creation, perfect spheres, are demonstrated to be oblate spheroids, the necessary consequence of this motion of their surfaces, communicated to them on this first day, before the formation of their atmospheres.

Now, if the surfaces alone were impressed with such a motion, their centres must have remained at rest; and consequently the body of the sun must have been placed, by the Creator, in, or near,

(1) The word in the original, strictly and properly signifies, *moved*, moved with violence, or communicated a violent motion, to a body, that before was at rest.

(2) That this Spirit of God was not the air of God, the wind of God, a mighty wind; and that this motion cannot possibly allude to Incubation; see *Moses and Bollingbroke*, p. 27, 28.

that

that portion of space which he now possesses, in the centre of the System; and for the same reason the earth, with every primary planet, must at their creation, have been placed at the same distances, from the body of the then-unformed sun; and the secondary planets, at the same distances from their respective primaries, as are their present mean distances, from the several centres of their motion: and if the centres, the axes also of the sun, and every planet, must have remained fixed and unmoved; this motion, therefore, now first communicated, must have been no other, than their diurnal motion.

Ver. 3. *And God said* (1),—*Let there be light; and there was light;—Let there be light*—and the immense chaotic body of the sun,

(1) “*And God said*,—These words,” (says Dr. Patrick) “are taken notice of “by Longinus, *περι ὑψους*, as a truly lofty expression; wherein appears the wisdom “of Moses, who represents God like himself, commanding things into being, by his “word; that is, by his will: for wheresoever we read these words in the history “of creation, *he said*, the meaning must be understood to be, *he willed*, as Maimonides interprets it. *More Nev.*”

But where is the sublimity of the truly lofty, and godlike, expression, if the words were not expressed?

“*And God said*,—commanded, not by such a word or speech as we use, which “agree not with the spiritual nature of God; but either by an act of his powerful “Will, called the Word of his Power. Heb. I. 3. Or by his substantial Word, his “Son, by whom he made the worlds. Heb. I. 2. who is called the WORD, partly, “if not principally for this reason. John I. 1, 2, 3, 10. *Poole.*”

But if the *Word*, the Son of God, made the worlds, did not he make man? and on the day that he created man, male and female, did not he, bless them—by such a word or speech as we use, when he *said unto them*, *Be fruitful, and multiply, and replenish the earth.—Behold, I have given you every herb, &c. for meat—and to every beast of the earth—And it was so?*

Now if *it was so*, on the sixth day, why not on every day of the creation? Why was it not the *Word*, the Son of God, who said, by such speech as we use, *Let there*

sun, instantaneously became a globe of fire—and *there was light* (1). That the body of the sun is fire, is demonstrable: that it was originally an opake body, as void of light, and heat, as any of the planets, is evident from the total darkness that was necessarily over its fluid surface; and that darkness prevailed over the System, till

there be light—let there be a firmament, &c. was it not he, who, by such speech as we use, called the light, *Day*—the darkness, *Night*—the firmament, *Heaven*, &c? And here let it be remembered, that there were innumerable witnesses to these so often-repeated words. *When he laid the foundations of the earth—when he laid the corner stone thereof, all the morning stars sang together, and [even] all the Sons of God shouted for joy.* (Job XXXVIII. 7.) Now though the creation and formation of the earth, and the System to which it belongs, might have produced this universal joy, if these Sons of God had only been witnesses to a world, a system of worlds, rising up out of nothing, by the mere will of the Creator; yet nothing could have given them so grand, so sublime, so majestic an idea, of the incomprehensible Power of the Creator, as the hearing his all-powerful voice, and, at the same time, seeing the immediate, the instantaneous effects, of that voice, in every single act of the creation and formation of the System, till the whole was finished.

(1) *Let there be light*;—The grandeur and sublimity of this sentiment, is finely expressed, and in bold, yet familiar metaphors, illustrated, by *Plato*, and *Dr. Young*.

Θεὸς ὁ Θεὸς ἀνῆλθεν. *Deus ipse solem, quasi lumen accendit.* In *Timæo*. Tom. III. p. 39. edit. *ferrani*.

O thou! whose word from solid darkness struck
That spark, the SUN—————

NIGHT THOUGHTS.

To restore the credit and reputation of *Moses*, and to vindicate the honour of the Creator, in this so-much-mistaken passage; let the candid Reader compare our plain, simple, and rational account, of the formation of light, with the following opinions of the learned.

“ *Let there be light, and there was light.* This was some bright and lucid body, peradventure like the fiery cloud in the wilderness, giving a small and imperfect light, successively moving over the several parts of the earth; and afterwards condensed, increased, perfected, and gathered together in the sun.” *Poole's Annot.*

“ It seems to me most rational by this *light*, to understand those particles of matter which we call fire, (whose two properties, every one knows, are *light* and heat) “ which

till God had said, *Let there be light*, is evident, because God said, *Let there be light*; and instantaneously, there was light.

Ver.

“ which the Almighty Spirit that formed all things, produced as the great instrument, for the preparation and digestion of the rest of the matter, which was still more vigorously moved and agitated, from the top to the bottom, by this restless element, till the purer and more shining parts of it, being separated from the grosser, and united in a body fit to retain them, became *light*.”

“ *And God saw the light, that it was good*;—agreeable to his design; which for the present was (we may conceive) to influence the upper parts of the CHAOS, and to be the instrument of rarefaction, separation, and all the rest of the operations, which were necessary to mold it into such creatures, as were afterwards made out of it.” *Lord Bishop of Ely's Commentary.*

“ The Spirit of God moved upon the fluid matter, and separated the parts it consisted of from one another; some of them shined like the light of the day, others were opaque, like the darkness of the night; God separated them one from the other; and this was the first step taken in the formation of the world.” *Shuckford's Connexion, Preface to Vol. I. p. 38.*

“ *Let there be light*; this seems not to be a command here, but a permission; as much as to say, Let light be, *if it will, or if it can, or if it chance, or if any agent can produce it.*—But to discover what this speech means; where was this light to be? 'tis afterwards described to be upon the surface of the waters: and what was it formed of? That which was there, that which is just before it called the *Spirit of God*, the airs in motion, which presently after are alternately changed, and as the motion was acting in one part, was called *light*, and as it was interrupted in another part, was called *darkness*. And since there was motion or action in the airs, and consequently a second cause, it must mean, let the motion, which I, by my Power have produced, and by disposition of matter continued among the airs, and stiled my Spirit, arise to that degree, or put them into that condition I call light. *Let there be light.*] “ The other instrument made use of to polish the earth, in itself rude and unformed, and the very darkness, and the yet turbid water, was the light; the embellisher of things, and which gives them their forms. But light which was created the first day, rude and imperfect, began on the fourth day, to be brought to its perfection and clearness.—*And there was light.* The means produced the intended effect, made part of the darkness light.” *Hutchinson's Works. Vol. I. p. 21, 22.* IF THE LIGHT THAT IS IN THEE, BE DARKNESS, HOW GREAT IS THAT DARKNESS!

H

(1) Sir

Ver. 4. *And God saw the light that it was good*: [that this globe of fire, with a velocity, almost incredible (1), darted forth its rays from every point of its stupendous surface ;] *and*, [by the motion of the earth, and every other planet, about their respective axes,] *God divided*, [had divided] *the light from* [or between the light and] *the darkness*.

Ver. 5. *And God called the light*, [the continuation of the light, on every possible hemisphere, of the earth, and of every other planet,] *day*; *and the darkness*, [the time of the sun's absence from those hemispheres,] *he called, night*. *And the evening and the morning, were the first day* (2), to every planet in the System. Though
it

(1) Sir *Isaac Newton* has shewn, past all contradiction, that the light of the sun is near seven minutes in its passage to the earth, which is computed to be 70,000,000 miles.

(2) “ *And the evening and the morning were the first day*. And here (says the learned “ *Dr. Clayton*, Lord Bishop of *Clogher*) I cannot but take notice of a very vulgar “ error, which the bulk of mankind have run into, from a wrong interpretation “ of this text, in beginning to count their day from the evening. Whereas it is “ plain from the words of this text, that *Moses* began to reckon his first day from “ the morning.” *Vindication*, Part II. p. 53.

It is a misfortune that sometimes attends learned men, that the vulgar are in the right, when critics and commentators run into error. If *Moses* had said, and the *morning* and the *evening* were the first day, it would have been plain from the words of such a text, that he began to reckon his first day from the morning, and not from the evening. But the words of *Moses* are so very plain, and express to the contrary, that they cannot possibly be misinterpreted, though they may be misunderstood, even by the learned. That *Moses* is right in beginning to reckon his first day from the evening, is evident, not only from his reckoning the other five days of creation from the same portion of time, but because the *Jews*, universally, began the seventh day, or the Sabbath, from the evening: and he that inspired *Moses*, begins the Sabbath from the evening. *It* (the tenth day of the seventh month) *shall be unto you a sabbath of rest*; and ye shall afflict your souls in the ninth day of the month at even: from even to even shall ye celebrate your sabbath. (Levit. XXIII. 32. compare Exod. XII. 6, 18. Lev. XXIV. 3. Numb. IX. 11, 21.)

it pleased the Creator, *in six days to make the heaven and the earth*; yet if he could not have finished his work in six moments, he could

Now, if so many years after its original institution, the sabbath was commanded to be celebrated, from even to even; and the celebration of the tenth day was expressly to begin on the evening of the ninth; the first sabbath, or the seventh day from the beginning of the creation, must have been reckoned from the evening, that succeeded the morning of the sixth day. If, therefore, the first seventh day was reckoned from the evening, that succeeded the morning of the sixth, it is impossible, that *Moses* could begin to reckon his first day from the morning.

But his Lordship attempts to prove his assertion, by adding, “ For, since at the
“ creation, darkness was upon the face of the deep, as soon as the sun began to
“ shine, then began the day, and continued twelve hours, until the evening closed
“ the day, at which time the night having commenced, continued also twelve hours
“ more, until the succeeding morning closed the night; and thus it was that the
“ evening and the morning formed and composed, or finished and completed, the
“ first natural day, of twenty four hours, by one revolution of the earth round its
“ axis.” (Id. *ibid.*)

With great submission to his Lordship, the fact was quite otherwise: as God himself called the light, *day*; the day indeed, both natural and artificial, began as soon as the sun began to shine; but as the question here is, when did the first natural day begin? In the evening or in the morning? let us see how Nature, or the established order, which the Creator appointed concerning days and nights, evenings and mornings, will determine this point.

Since the revolution of the earth about its axis, (the same is to be understood of the other planets,) and the light of the sun, are both of them necessary to the formation of a day, now; they must have been equally necessary to the formation of the first day; and, therefore, the impression of that motion that carries the earth about her axis, and the lighting up of the sun, must have been effects of the divine Power, produced at one and the same moment of time; because time could not begin on the earth, or on any other planet in the System, unless their diurnal motion had commenced, the moment the sun first began to shine. Now as the earth is a globe (and so of every planet) but one half of her surface could be illuminated at a time; the moment, therefore, the sun began to shine upon that hemisphere, which at the creation, was objected to the body of the sun, before it became a globe of fire, that very moment the day, both natural and artificial began; (for God called the light, *day*;) but then, as the whole hemisphere was illuminated, it must have been noon-day. And as a natural day cannot be

could not have been the ALMIGHTY. We, indeed, are accustomed to call the *Mosaic* creation, the *hexaemeron*, the *six days work*; but

completed but by one entire revolution of the earth about its axis, the beginning of this first day must be fixed to some moment of time, when the sun was in some distinguishable part of the heavens, when he first began to shine; in the *horizon*, for instance, or in the *meridian*: but, as by supposition, this was the first day, the horizon is out of the question; for when the sun first shone upon the earth, and indeed upon every planet in the System, it must necessarily have appeared in its *meridian* glory. The beginning, therefore, of this first day must necessarily be fixed to that moment of time, when the sun was in the meridian of those first enlightened hemispheres, of the earth, and every other planet: it was, therefore, impossible in nature that there should have been any morning, to those first enlightened hemispheres, till the planets should have performed so much of their first revolutions, about their respective axes, as would bring the sun to appear in, or near, the horizon of those hemispheres that were first illuminated. Now as the diurnal motion of the planets is from west, to east, as soon as ever the sun had passed to the westward of these first meridians; that is, the moment the sun began to decline, the evening, on each of them commenced, which was succeeded by the night, and that followed by the morning, on every planet, when the sun would first appear in, or near, the horizon of their first enlightened hemispheres.

Since, therefore, the first natural day is to be reckoned, from the appearance of the sun in the meridians of the first-enlightened hemispheres of the earth, and every planet; and since God called the darkness, or the absence of the sun, night; when the sun should be in the meridians of their opposite hemispheres, it would be midnight, to the first enlightened; we have two principal points of time ascertained; viz. the true astronomical evening and morning: for *astronomers*, as well as *Moses*, reckon their morning, from the time of midnight, to that of noon or mid-day; their evening, or *post meridiem*, therefore, must be, like the evening of *Moses*, from noon, or mid-day, to midnight.

COROLLARY.

Hence the extreme propriety of the *Mosaic* account of the beginning and succession of time. And since at the instant of creation, the sun was in the meridian, of the first enlightened hemispheres, of the secondary as well as the primary planets, our moon must have been at the full; are we not indebted to the writings of *Moses*, for fixing the true foundation of all chronology, even to the moment when time began, to this earth, and to every planet in the System?

N. B.

but we forget the *Worker*, when, with the learned master of the Charter-house, we weakly compare the work of one day, with that of another (1): for whoever will attend to the plain, simple, historical, relation, of the several acts of the divine Power, from day to day, may be convinced, that each of them was effected in a moment,—*Let there be light—and there was light. Let there be a firmament—and it was so.*

Nothing can be a greater demonstration of this truth, than the work of this first day: for though there be several distinct, and very different propositions contained in the first five verses, yet such is their close connexion with, and dependance on, each other, that to form as just conceptions as we can, of those acts of the divine Wisdom, as well as Power; we must by no means consider these propositions, as separate, and detached sentences, but as
one

N. B. If on these two certain and infallible data, the *first meridian*, and the *first full moon*, (both of them recorded by *Moses*,) the Rev^d Mr. *Kennedy* had founded his laboured System of ASTRONOMICAL CHRONOLOGY, he never could have asserted, in contradiction to the most express words of *Moses*, and in direct opposition to common sense—"That time commenced at the autumnal equinox, in coincidence with a full moon, *On the fourth day of the first week, at noon.*" p. 158.

(1) "Very unequal are the tasks of these days: the first day's work was done in the twinkling of an eye; and so I think was the second. But that of the third day, would be a great and tedious undertaking. First, to scoop out such a hollow, large and deep, as is the channel of the sea; then to derive, or rather to force down into that ditch, the whole body of waters, that covered the surface. The work of the fourth day seems to be equally laborious: the sun, the moon, the stars: Good God! how immense were the bodies, that one single day brought forth in perfection."

"Admodum inæqualia sunt horum dierum pensa: primi diei opus ictu oculi peractum fuisset: atque ita opinor, secundi. Sed diei tertii magnum esset molimen et diuturnum. Primo excavare fossam tantam, quanta est illa alvei marini; dein aquas omnes quæ superficiem terræ operiebant, derivare, vel potius detrudere, in illam fossam—quarti diei pensum videtur non minus operosum: solem, lunam, sidera: Deus bone, quot et quanta corpora, una dies parturiit et perfecit." Burnet. Archæol. p. 421, 422.

one grand period, composed of so many different members, which constitute that period: for instance,—

In the beginning God created the heaven, the heavenly bodies, and the earth; and the earth was without form, and void; and darkness was upon the face of the deep; and the Spirit of God moved, impressed a violent motion, upon the surface of the waters. And God said, Let there be light; and there was light. Whereas, if we take these several propositions together, as they lie in the text, each of them expressly connected with the preceding, by the significant particle *vau*, the *oneness* of the period will be extremely evident; and the beautiful assemblage of so many grand, and astonishing ideas, will appear, beyond imagination, striking. —“ The heaven, the heavenly bodies and the earth, being created
 “ mere masses of matter, without form and void, each of them a
 “ distinct *fluid chaos*, immersed in darkness; the *Spirit of God* im-
 “ pressed a violent motion on their fluid surfaces, which carried
 “ them about their respective axes; and at the same time, *God*
 “ said, *Let there be light*——and the immense body of the sun be-
 “ came a globe of fire,—and there was light.”

For as the motion of the earth, and the other planets, about their axes, and the lighting up of the sun, were equally necessary to constitute a day, on any globe; these two acts, of the divine Power, must have been effected, in one, and the same, moment. But as from this history of creation, as well as from other express passages, in the sacred writings, it is evident, that *in six days*, (as days are measured to our earth,) *God created the heavens*, the heavenly bodies, even all the host of them, *and the earth*; if on our seventh day God had finished, or had rested, from all his work, which God had created to make; the creation of the masses of matter, of which these bodies consist, as well as the formation of them,

them, must be comprehended in the six days work : these bodies, therefore, were created on the first day. But as the first day could not possibly begin, on any planet, till it had been impressed with a diurnal motion, and till the sun was made a globe of fire ; the heavenly bodies, and the body of the earth, that is, the masses of matter, of which they were formed, must have been created—— must have been impressed with a motion about their axes,—and the body of the sun, must have been made a globe of fire, in one and the same moment of time ; even the first moment of the first day, on every planet in the System.—Infinite God ! was this the work of a day !——Moments and days are both alike to THEE !

C H A P. V.

Of the Formation of the Atmosphere.

Tertio, memorat Moses in suo hexaemero celebre phenomenon, quod nullibi rerum comparet. *Aquas intelligo supercoelestes: quibus condendis, aut suis sedibus disponendis, Deus impendisse dicitur integrum diem. Burnet Archaeol. p. 415.*

Truth still is one, truth is divinely bright,
No cloudy doubts obscure her native light;
While in your *thoughts* you find the *least debate*,
You may *confound*, but never can translate.
Your stile will this through all disguises show,
For none explain more clearly than they know.
He only proves he *understands* a text,
Whose *exposition* leaves it unperplexed.

ROSCOMMON.

The Second Day.

Gen. I. 6. **A**ND God said, *Let there be a firmament*, [an expanse, an expanded spherical body of air (1) an atmosphere] *in the midst of the waters* [that are on the surfaces of the earth, and every other planet and comet; and the fluid matter that surrounds the body of the sun,] *and the waters* [and the fluid matter, which by the means of these atmospheres (2) will be

(1) Air is a coalition of particles of various kinds, first separated from the chaotic mass, which together constitute one fluid body: the whole assemblage of these particles makes what we call the Atmosphere.

(2) As vapours are thin vesicles of water, or any other humid matter, inflated with air; and by the action of heat, being rarefied to a certain degree, are raised from the surface, and suspended in the atmosphere, in the form of clouds; it was impossible that there should have been any waters, except on, or under the surfaces of the earth, or any other planet, on the first day; because there was no air,

wherewith

be raised, and suspended above their surfaces] *and let it* [this atmosphere, and the atmospheres of the other planets, &c.] *divide the waters* [the fluid matter] *from the waters* [and the fluid matter on each of them respectively.]

Ver. 7. *And God made a firmament*, [an expanse, an expanded spherical body of air, an atmosphere, to the earth and every planet, and comet, and to the sun itself,] *and divided the waters* [and the fluid matter of the sun] *which were under the firmament*, *from the waters and fluid matter which were above the firmament* [on each of them] *and it was so* (1).

wherewith these vesicles of water could be inflated, and thereby rendered specifically lighter than the waters on the surfaces; no atmosphere, in which they could be suspended, till the second day. As, therefore, the air alone, in the present constitution of things, (and in the beginning it was so,) can furnish the means of raising water above the fluid surfaces of bodies, it is with the greatest philosophical propriety said,—*Let there be a firmament, or atmosphere, in the midst of the waters, and let it divide the waters from the waters.*—Not those imaginary waters which extreme ignorance has placed above all the visible heavens, or the region of the stars; but as we have said,—*Let it divide, or separate, or raise the waters*, in the form of vapours, or clouds, from the waters, that now cover the surfaces of the earth, and every other planet, &c.

To instance in the waters on our earth: as every point of the globe, excepting near the poles, would in the space of twenty-fours, be objected to the sun, the quantity of water raised above the surface would be immense. For, if the quantity of vapour exhaled in one summer's day, from the surface of the Mediterranean alone, according to the calculation of *Dr. Halley*, (*Philosoph. Transact. abridged by Lowthorp*, Vol. II. p. 109. Ed. 4.) (abstracting from any consideration of the winds, whereby the surface of the water is licked up, somewhat faster than it is exhaled by the heat of the sun,) was, 5,280,000,000 tuns; how immense must be the quantity exhaled from the surface of the whole globe, (for the dry land did not yet appear,) whose diameter is computed to be 6880 geographical miles.

(1) *And it was so.* That there might be no possible foundation for a doubt, concerning the true literal and obvious sense of the sacred text, these words occur no less than six times; as if the Spirit of God had designed to guard against a method of interpretation, so destructive of common sense, as is that of *allegorizing*, or cloathing the plainest truths with the thickest veil of obscurity.

Ver. 8. *And God called the firmament* [the expanse, the expanded air, the atmosphere, on each of them] *Heaven* (1): *and the evening and the morning were* [to the earth] *the second day*. [to the other planets, the day that corresponded in the whole, or in part with our second].

That the sun, with every planet and comet in our System, are furnished with atmospheres, is demonstrable: but if, (as has been argued (2) above) they were all created together; were each of them a fluid chaos, immersed in darkness; and if, whilst they were in this fluid state, they were impressed with such a violent motion, that caused them to revolve about their axes, they must have had this motion communicated to them, by the same almighty mover, when he impressed the earth with her diurnal motion. By the same manner of reasoning, when God said, *Let there be a firmament, &c. to divide the waters, &c.* the almighty efficacy of that *fiat*, must have extended to every one of the heavenly bodies, as well as to the earth. A standing proof of the truth of this proposition, is, the oblate spheroidal form of the sun, and all the planets; for such a figure is the necessary effect of that violent motion, which the Spirit of God, communicated to these bodies, whilst in a chaotic and fluid state (3).

But

(1) For the sun, the earth, and the other planets, by being set in the firmaments of Saturn, Jupiter, &c. would be heavenly bodies to them, as they are heavenly bodies to the earth. See p. 25.

(2) P. 54.

(3) See *Moses and Bolingbroke*, p. 33, 34.

“ One effect (says the Ld. Bishop of Clogher) which would arise from the
 “ motion of the earth round its axis would be, that the waters, which before
 “ were equally dispersed over the whole earth, would immediately begin to quit
 “ the poles, and would all run towards the equator on the middle of the earth.
 “ (*Vindication*, ut supra, p. 64)—And by gathering themselves in that *one place*, as
 “ it were in a heap, the earth, all the way from the poles to the edge of the
 “ waters under the equator, would begin to appear, and at length become firm
 “ and dry ground. By which means, this terraqueous globe would be divided
 “ into

But besides this primary design of making firmaments to separate *the waters from the waters*, there was one grand and mechanical purpose it was to serve, to which the prophet seems evidently to allude. *God himself, that formed the earth and made it : HE ESTABLISHED IT : he created it not in vain ; HE FORMED IT TO BE INHABITED (1).*" Because it was to be inhabited, he *established* it,—fixed it FIRM and STABLE, as if it had been absolutely at rest ; and since, from the great similarity of the other planets, with the earth, there can be no reason in the world to imagine, that God created them in vain ; we may fairly conclude, that he formed them also to be inhabited ; and as a proof that the creator designed them for the habitations of some intelligent creatures, he hath *established* them in the same manner, as he *established* our earth, by furnishing each of them with a firmament.

As to the name, *Firmament*, though the word, in the original, properly signifies an *expanse*, any thing *expanded*, or stretched out (2), yet, because such an expanded body of air, or atmosphere, is, by the power of attraction, firmly fixed to the globe, to which it is an appendage, may not the $\zeta\epsilon\pi\epsilon\omega\mu\alpha$ of the *Septuagint*, and the FIRMAMENT, of our translators, be very expressive of the true philosophical reason of the name ; and at the

" into three parts, two of which would be earth, and would be separated from one another by a belt of waters under the equator." (p. 65.)

But if the firmament, which God called heaven, be, as his Lordship supposes, " that atmosphere or firmament of air, which surroundeth this globe of earth," was created the first day ; and if on the first day, the motion of the earth round its axis was instituted ; though that motion had continued from the creation to this day, whilst the earth was surrounded with an atmosphere of air, it could not possibly have produced any alteration in the figure of the earth. The present figure, therefore, of all the bodies in the System, is an incontestable proof, that firmaments or atmospheres were made to them all, after the institution of their diurnal motions, and therefore they were made on our second day, and consequently by one and the same almighty Fiat.—*Let there be a firmament.*

(1) Isa. XLV. 18.

(2) L'Estendue—Espandidura.

same time confirm our explanation of the prophets term, *established*. For though the planets revolve about their axes, with a velocity hardly to be conceived, the *Earth*, at the rate of a thousand, and *Jupiter* thirty eight thousand one hundred and fifty nine miles, in the space of an hour; yet because their atmospheres are thus firmly fixed, neither the extremely rapid diurnal, nor the astonishing velocity of their annual motion, can possibly be perceived by their inhabitants: And indeed, without such a *fixture*, as an atmosphere may be termed, the earth would have been absolutely uninhabitable to creatures like us, whose breath is in our nostrils. Now, as the air, by the amazing contrivance of him, who formed our atmosphere, was to be the necessary means of life, health, and vigor, to every plant, and every animal, that was to be formed out of the earth, or the waters (1), if the other planets are furnished with animals and plants, formed out of their substances; may not their respective atmospheres be equally necessary to the same purposes of life and vegetation, as they are to the rendering those planets habitable worlds?

Concerning any possible use of an atmosphere encompassing that immense globe of fire in the centre of our System, it becomes us to be absolutely silent, though "We cannot deem it impossible, that Beings may have been made, fit to reside, to act, and to think, in the very centre, as well as on the surface of the sun (2)."

(1) "The air-pump, experiments made therein, and others to which these gave rise, have discovered many properties of the air, heretofore unknown, which shew the admirable sagacity of that Being, by whose astonishing contrivance, that fluid is so adjusted and tempered, as in effect to support the animal as well as the vegetable world, and to maintain this part of the creation, in the condition in which it is." *Reflections on Incredulity*, p. 35. 2d. Edit.

(2) *Id.* p. 2.

CHAP. VI.

Λαλθάνει γὰρ αὐτὸς τὸτο θελοντας, ὅτι ἔργον ἦσαν ἐκπαλαι, καὶ γῆ ἐξ ὕδατος καὶ οἱ ὕδατος συνεσώσα, τῷ Θεῷ λογῶν. Δι' ὧν ὁ ποτε κόσμος ὕδατι κατακλυθεὶς ἀπώλετο. 2 Pet. III. 5, 6.

The Third Day.

Ver. 9. **A**ND God said, *Let the waters under the heaven [on the surface of the earth, and on the surfaces of every planet] be gathered together unto one place (1), [on the earth, and on each of the planets,] and let the dry land appear. And it was so.*

We have seen the bodies of the sun, the earth, and every planet in the system, whilst in their chaotic state, revolving about their respective axes; whereby, not only the waters that covered their surfaces, but the yielding particles of the bodies themselves, must have receded from the centres of the circles in which they

(1) Here are no superfluous, no unmeaning words. *Unto ONE place*, seems evidently to intimate to us, that in the original constitution of the earth, there was but *one continent*, or *continued tract of land*; and but *one collection of waters*: for though the gathering together of those waters that remained on the surface, after their separation from those of the abyss, were, by him that separated them, called *seas*; it was but one gathering together, of many waters; and these waters were called *seas*, from the different parts of the globe which they covered, and from the various shores they washed. If this interpretation be admitted, the very being of islands, and the separation of the continents, (if they be really separated) are owing to the deluge.

moved, and that with the greater force, as the peripheries of the circles are greater. Hence, the equator, on each of them, being the greatest circle, and the rest towards the poles continually decreasing, this violent motion, though continued but for one revolution about their axes, before their atmospheres were formed, would necessarily change their original forms (1), from spheres (2) to oblate spheroids (3); and a spheroid is the demonstrated figure of every planet, and of the sun itself.

Since, therefore, the present figures of these bodies are the same, as that of the earth, before the separation of the waters from the dry land, they must, like our earth, have been formed under the waters (4); that is, the figure of these bodies was fixed;

(1) *Original Forms*; according to our IVth Prop. "That the several masses of matter (of which the heavenly bodies and the earth do consist) were at their creation, each of them a distinct chaos, without any form, except what arose from that *particular gravity*, or tendency of their several particles, to the centres of their respective masses, which the creator seems to have impressed, on every particle of matter, at the beginning."

(2) This is that species of gravity of which the great Sir *Isaac Newton* speaks — "Gutta corporis cujusque fluidi, ut figuram globosam inducere conentur, facit mutua particularum suarum attractio, eodem modo quo terra mariaque in rotunditatem undique conglobantur, partium suarum attractione mutua, quæ est *gravitas*." Optic. p. 338. "The mutual attraction of their parts, causes the drops of every fluid body to take upon them a spherical figure, in the same manner as the earth, and the seas, are formed into a *perfect sphere*, by the mutual attraction of their parts, which is *gravity*."

(3) See *Moses and Bolingbroke*. p. 33.

(4) The earth was formed, but in the womb as yet
Of waters, embryon, immature involv'd,
Appeared not. —————

Parad. Lost, B. VII. 276.

The author of the book of *Job*, has a very remarkable passage to this purpose, chap. XXVI. 5, 6, 7. *Dead things are formed from under the waters, and the inhabitants thereof*. — That the author is here speaking of the wisdom and power of God,

ed; and the disposition of their parts into hills, valleys, mountains, plains, and channels, for the reception of those waters

God, in creation, is evident from ver. 7. *He stretcheth out the North over the empty place, and HANGETH THE EARTH UPON NOTHING*;—upon her centre, a mere imaginary point, which is nothing.

And earth self-balanced, on her centre hung. *Milton, B. VI. l. 242*

The waters, therefore, that are here spoken of, must be the waters that covered the whole earth at the creation: now, these dead things cannot possibly signify literally, things that ever had life, because nothing that had life, either vegetative, or animal, was formed, till after the separation of the waters from the dry land was completed. Dead things, therefore, must mean figuratively, things inanimate. And for the same reason, the word *inhabitants*, must also signify, metaphorically, those things that were *in* or *upon*, what was formed under the waters.—*Dead or inanimate things, [the earth] and the inhabitants thereof, [all that is in, or upon it,] were formed from under the waters*: that is, the earth, whilst under the waters, received its spheroidical form; its mountains were brought forth, its hills were settled; its metals, minerals, marles, clays, &c. &c. were all formed, with the body of the earth, under the waters, that covered it at the beginning. And that the thick covering of the deep, could be no obstacle to the divine power, in thus forming the earth and its contents, the author immediately adds, (ver. 6.) *Hell [the most dark and secret place] is naked [open] before him, and destruction hath no covering.*

To confirm this interpretation, let it be observed, that the writer of the CIVth Psalm, the best commentator on this work of the third day, in celebrating the majesty of God in the creation, having ascribed to him the laying of the foundations of the earth, that it should not be removed for ever, adds,—*Thou coveredst it with the DEEP* (the very expression of *Moses*) *as with a garment*: THE WATERS STOOD ABOVE THE MOUNTAINS. The mountains, therefore, must have been formed, whilst the earth was thus covered with the DEEP as with a garment; and if the mountains, the valleys also, the hills and plains, and the different strata of which they were composed, must have been formed under the same covering. *The waters stood above the mountains*; there they remained, till AT THY REBUKE [thy command] THEY FLED: AT THE VOICE OF THY THUNDER [thy thundering, thy commanding voice]—LET THE WATERS UNDER THE HEAVEN BE GATHERED TOGETHER UNTO ONE PLACE, AND LET THE DRY LAND APPEAR: *and it was so.* [For] THEY HASTED AWAY; THE MOUNTAINS ASCEND—[rise up from under the waters, and make room for the waters to occupy the place thus deserted by the rising earth] THE VALLEYS DESCEND TO THE PLACE [the one place] WHICH THOU HAST FOUNDED FOR THEM.

that

that were to form the seas, must have been made, before the dry land on any of them had appeared. But as this separation of the waters from the dry land, on the other planets, depends on the *Mosaic* application of what was effected on our globe, we shall consider the words as if they related to the earth alone.—*Let the waters on the surface of the earth, be gathered together unto one place, and let the dry land appear: and it was so.*—The waters, on the surface of the earth, were gathered together unto one place, and the dry land did appear.

Ver. 10. *And God called the dry land earth, and the gathering together of the waters called he seas. And God saw that it was good.* Now to form a judgment of the grandeur and sublimity of this passage, let us take a survey of the present state of the waters, upon the surface of the earth; and of the dry land. A flight view of the terrestrial globe will convince us, that the OCEAN, or grand collection of waters that encompass the earth, occupies a much greater portion of what we know of this terraqueous globe, than the dry land. The *southern* or *pacific* ocean, comprehends all between *Asia*, *America*, and the southern or *Terra Magellanica*: hence, what lies between *America*, *Europe*, and *Africa*, as far as the *Line*, is the *North* sea. Beyond the *Line*, between *America*, *Africa*, and the *Terra Australis*, the *Ethiopian* sea. Between *Africa*, *Asia*, and the *Terra Australis*, is the *Indian* ocean.

In this huge collection of waters, are generally said to be enclosed as *islands*, two grand continents, or continued tracts of land; that which comprehends *Europe*, *Asia*, and *Africa*; and what includes the two *America's*, north and south: or if the northern parts of *Tartary* run out, and meet those of *North America*, as
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the waters were gathered together unto ONE PLACE, the dry land of the whole earth was originally but ONE CONTINENT (1).

Since then the OCEAN possesses more of the surface of the globe, than the dry land, how immense must that body of waters have been, that covered the whole earth, before their separation, when the waters stood above the mountains! And how capacious must that ONE PLACE have been, that could contain a body of water, equal in bulk, to the dry land of the whole

(1) *One continent.*—This may be argued from the following considerations :

I. It is evident, that God commanded *Noah* to bring into the ark, of every living thing, to keep them alive with him; they came, indeed, by the peculiar direction of the providence of God; for God had expressly said to him, *Of fowls after their kind, and of cattle after their kind, of every creeping thing of the earth after his kind, two of every sort, SHALL COME UNTO THEE, to keep them alive*: yet notwithstanding this unexampled providence, it was impossible (without as many miracles, as there were species of creatures, on any other continent, than that on which *Noah* built the ark,) that any of those creatures, except of the feathered kind, could ever have come to him.

II. *And when God had created man, male and female; God blessed them, and God said unto them, be fruitful and multiply, and replenish [fill] the earth.*—Now “it cannot easily be imagined, if the sea had been always, and the earth in this *terrestrial* form, broke into continents and islands, how mankind could have been propagated at first through the face of the earth, all from one head, and from one place. For navigation was not then known, at least as to the grand ocean, or to pass from continent to continent: and I believe *Noah's* ark was the first ship, or vessel of bulk, that ever was built in the world.” (*Burnet's Theor.* Vol. I. p. 175. 2d Edit.) But if there was originally, but *one continent*, as every part of the earth might have been visited by land, the whole earth might have been filled, and navigation would have been precluded. And if mankind had continued in their original state of innocence, there would have been *no deluge*—*No ark*—*No ship*. Nor, indeed, does it appear that there would have been any use for vessels, even of the smallest bulk. Will it not hence follow, (as hinted above, p. 69.) that the very being of ISLANDS, and the separation of the CONTINENTS, are entirely owing to the deluge of *Noah*.

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earth!

earth! Well might *Moses* call the waters, that on the first day covered the surface of the whole earth, THE DEEP.

Now, though it is impossible for us to frame any idea of God's giving a diurnal motion, or of his making an atmosphere, to any planet; yet as the separation of the waters from the dry land, includes in it, or rather is itself, the *Mosaic* description of *God's laying the foundations of the earth*; we may, perhaps, from some striking circumstances in the history of the flood, form some faint conceptions of this work of the third day.

For, as the *breaking up of all the fountains of the great deep*, was the principal cause of the deluge (1); and as these fountains were not stopped, did not cease to flow, till all the high hills, and all the mountains were covered (2); the earth must have been, at that time, in the same, or in similar circumstances, with those, in which she was at the beginning, before the separation of the waters from the dry land. Since, therefore, the high hills and the mountains were, at the beginning, covered with the waters of the whole earth; (for the earth was formed under the waters; (see p. 71.) and when the flood was at the highest, the hills and the mountains were covered with the same waters, even the waters of the whole earth; viz. the waters which had flowed from all the fountains of the great deep; and those, which, after the original separation from the dry land, had formed the seas; since, I say, these were the circumstances of the earth, at these two periods, the place of this GREAT DEEP, must have been a GRAND CHASM, opened by the creator in the body of the solid earth, even to its centre.

(1) Gen. VII. 11.

(2) Ibid. V. 19, 20.

If it be said, that God called for the waters of the sea, and poured them out upon the earth (1); be it so; yet as the waters of the sea could not have been poured out upon the earth, unless those from the great deep, had been caused to flow into the sea, and thereby raise it above the earth; the waters of the sea must have communicated with those of the great deep (2); and therefore, as the waters that originally covered the earth, were but *one body*; and now, that they were to be separated from the dry land, they would still be but *one body*; the capacious deep, and the channels for the seas, must have constituted that ONE PLACE, unto which, the waters of the whole earth were to be gathered together (3).

And here, as in every act of the divine Being, his most consummate wisdom runs parallel with his almighty power. For since God is represented as doing every thing by weight and mea-

(1) Amos. V. 8. IX. 6.

(2) " By the great deep, in this place, (says Mr. Ray,) I suppose is to be understood, the subterraneous waters, which do, and must necessarily communicate with the sea. For we see, the *Caspian*, and some other seas, receive into themselves many great rivers, and yet have no visible outlets; and therefore, by subterraneous passages, must needs discharge their waters into the abyfs of waters under the earth, and by its intervention into the ocean again.

" That the *Mediterranean* sea doth not (as I sometimes thought) communicate with the *ocean* by any subterraneous passages, nor thereby impart any water to it, or receive any from it, may hence be demonstrated, that the superficies of it, is lower than the superficies of the ocean, as appears from the waters running in at the streights of *Gibraltar*." Ray's Discourses, p. 75, 4th Edit.

(3) " Say, why should the collected main
" Itself within itself contain?
" Why to its caverns should it sometimes creep,
" And with delighted silence sleep,
" On the lov'd bosom of its parent deep?

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ture (1); when he created the chaotic mass of matter, of which the body of the earth consisted, he must have adjusted the solid earth, and the water, in such an exact proportion to each other, that when the abyfs could not contain the whole body of waters, that covered the earth, those that remained, should fill the channels of the seas.

From this peculiar mechanism, or construction, of the parts of this terraqueous globe, and their dependence on each other, we may plainly discern the beauty and sublimity of the following passages,—*The earth is the Lord's, and the fulness thereof—for he hath founded it upon the seas, and established it upon the floods* (2); upon the waters that *flowed* into this grand abyfs. Upon these waters *were the foundations thereof fastened*; and with the same materials, *did he lay the corner stone thereof* (3), even with the waters that remained on the surface, and filled the channels of the seas. For as these communicated with those of the great deep; (see p. 75.) the immense pressure (4) of so huge a body of waters, in the *Southern* or *Pacific* ocean, the *Atlantic*, the *North* sea, the *Ethiopian* and the *Indian* oceans, exerted every way, on the waters of the great deep, would fix the foundations of the earth FIRM and STABLE, as if it had been founded on a ROCK.

Hence the great, the philosophical propriety of *St. Peter's* attributing the destruction of the old world by water, to the original

(1) *Isai.* XL. 12. (2) *Psal.* XXIV. 1, 2. (3) *Job.* XXXVIII. 6.

(4) *The immense pressure.*] By a fixed and established law of hydrostatics, (which seems to have been now first exemplified by the creator) “all fluids gravitate, “or weigh, in proportion to their quantity of matter; and weigh the same, communicating with a quantity of that fluid, as in vacuo. And if” (as by another law) “from the gravity of fluids arises their pressure, which is always proportional

nal construction of the body of the earth (1). For this they are willingly ignorant of, that the heavens [the heavenly bodies] and the earth were of old, [in the beginning created] and [that] the earth, by the word [the command] of God [when he said, Let the waters, &c. be gathered together unto one place, that the dry land may appear,] consisted [was made to stand] out of the water, of the great deep] and [fixed on its watery foundations] by water [by the pressure of the waters of the grand ocean on those of the great deep] whereby [by which peculiar construction of the terraqueous globe] the world that then was, being overflowed with water, perished. For since the earth was founded upon the seas, and established upon the floods; since on these the foundations thereof were fastened, even by the pressure of the grand ocean on the subterraneous waters; if by any means this pressure could be taken off, (and that it was taken off, is evident from the history of the flood, which particularly ascribes the destruction of the old world, to the breaking up of all the fountains of the great deep, which, as long as that immense pressure had continued, could not possibly have been broken up); if, I say, by any means this pressure could be taken off, whereby the foundations of the earth would be fapped, the subterraneous waters would be too weak to sustain the superincumbent earth: the solid earth, therefore, by its greater specific gravity, would necessarily sink into the waters of the abyss. And since the solid earth, and the waters must have been in the same proportion to each other, as at the beginning, the fallen earth would as necessarily force up the waters from the deep, and thereby elevate the waters of the grand ocean, above the dry land, to the same perpendicular

“portional thereto,” the waters of the great deep, must have sustained a weight, equal to the absolute weight, of all the waters of the grand ocean, and of all the rivers and lakes, that covered the face of the whole earth.

(1) 2 Pet. III. 5.

height as at the beginning. Hence it will evidently appear, that since the waters that overwhelmed the earth at the flood, were the same that covered the earth before the dry land appeared; the high hills and the mountains that were covered at the flood, must have been the original high hills and mountains, that were formed under the waters, before their separation from the dry land.

Thus the flood appears to have been the very reverse of the work of the third day. For as the waters covered the whole earth till the beginning of that day, when God commanded them unto one place, viz. the great deep and the channels of the seas; and as, at the flood, he (1) brought them back again to cover the earth (for he called for the waters of the sea, which communicated with those of the great deep, and poured them out upon the face of the earth, we might conceive of this extraordinary act of the divine being, as if God had said, when he had determined to destroy the earth—*Let the waters that were gathered together unto one place—Let those very waters return, and cover the face of the whole earth as at the beginning.* But though this was the fact, it was the work of providence, and not of creation; the laws of nature, and of motion, (if in effect they be not the same) were in the beginning established by the creator (2); and by these laws, under the direction of him, who did whatsoever he pleased, in heaven and in earth, in the seas and all deep places, the greatest revolution, and the greatest change in nature, was effected; as we hope to demonstrate in the following chapter.

(1) *And behold I, even I do bring a flood of waters upon the earth, to destroy all flesh, wherein is the breath of life, from under heaven, and every thing that is in the earth shall die.* Gen. VI. 7.

(2) See in chap. IX. Of the laws of motion.

C H A P.

CHAP. VII.

*An APPENDIX to the Work of the THIRD DAY;
BEING
An Enquiry into the natural Causes of the Flood.*

A comet descending in the plane of the ecliptic towards its perihelion, on the first day of the deluge, past just before the body of the earth. WHISTON.

AS in the course of this inquiry, we shall make a very different use of the surprizing discovery of the learned and ingenious Mr. Whiston, of the COMET that on the first day of the deluge, passed just before the body of the earth; on which phenomenon he has founded his NEW THEORY OF THE EARTH; it is necessary, before we attempt to establish another theory of the deluge, on more rational and philosophical principles, to demonstrate the great astronomical absurdity of *this*, of Mr. Whiston.

It is essential to the very being of a Planetary System, that the sun, and every planet that rolls about him, should consist of a determinate quantity of matter; that these planets, at the beginning of their existence, should have been placed at proper and determinate distances from the central body, and that the quantity of motion impressed on each of them, according to the tangents of their respective orbs, should be in such proportion, to the power of gravity in the sun, and in those planets, as to retain them in their several orbits.

Now, if by the power of gravitation, the planets of our system have been, from the beginning of their motion, retained in their orbits, their quantity of matter, and motion, as well as their distances from the sun, and from each other, must have been, from the beginning of the System, so nicely adjusted, that the least *diminution* of, or *addition* to, the quantity of matter, in any one of the planets, would destroy the *equilibrium* between the centripetal and centrifugal force of such planet, and thereby disturb the whole system. For this reason it is probable, in the highest degree, that there has been no *diminution* of the quantity of matter in the body of the earth, or in its atmosphere, from the beginning of its existence: for all the changes, and alterations produced from time to time, on the earth, in the seas, or in the atmosphere, are only changes, and alterations in the *form*, without the loss of one *particle of matter*, that first entered into the composition of this *terraqueous globe* (1). On the other hand,

(1) As the atmosphere is, by the power of gravity, fixed to the body of the terraqueous globe (see p. 66.) not a single particle of matter could fly off from the earth: for fluids must be raised in vapour; but beyond the limits of the atmosphere, or expanded body of air, by the means of which alone, vapour can be raised, no particles of fluid substances can possibly be elevated. And the particles of solid bodies could be diminished by no other means, that can possibly be conceived, except by annihilation. But ANNIHILATION, and EXNIHILATION, (if the term may be admitted) are words, which can never convey any idea to the mind, but that of OMNIPOTENCE, or the bare possibility of a substance being reduced to, or produced from, NOTHING: nor indeed can we possibly be assured, without a revelation, that the omnipotent has ever exerted his power, in depriving any one substance, or indeed any single particle of matter, of its existence; any more than without a revelation, we could ever have known, that from *nothing*, from a state of *non-existence*, he gave being to every thing that does exist. Very remarkable to this purpose, are the words of the Preacher, the Son of David, &c. *I know that whatsoever God doth, it shall be for ever* [as long as the System shall last:] *nothing can be put to it, nor any thing taken from it; and God doth it, that men should fear before him.* Eccles. III. 14.

On

hand; the least addition to the quantity of matter, in any planet, would necessarily increase the power of gravitation towards the sun; and this increase of the power of gravitation would likewise destroy the equilibrium of the two forces, and disturb the whole System.

If this then was the case, with respect to so immense a body as the sun, and our little planet, before the near approach of *Mr. Whiston's* comet; what must have been the consequence of so prodigious a quantity of new and foreign matter derived from its atmosphere to the earth (1)? (if it were possible, for the atmosphere of a comet to produce water, impregnated with earthy and stony particles,) what, I say, must have been the consequence of such a prodigious addition to the quantity of matter in the earth, but the precipitating the earth, and her moon with her, into the centre, to the absolute destruction of the System? And as "comets agree with planets in a regular motion about the sun, the common centre or focus of our system (2)," the loss of so great a quantity of matter, as the atmosphere of this comet is supposed to have deposited on the earth, must necessarily have destroyed the regular motion of the comet, if it had been possible for the earth to have been retained

On this subject of annihilation, give me leave to observe, that since the notion is manifestly borrowed from that of creation, or the giving being to what before had no existence, it is extremely absurd in those, who talk so much of, and wish for, annihilation, to deny that the Being, whom they must confess to be almighty, ever did produce any substance from nothing.

(1) "The diluvian matter from the comet's atmosphere, contained in it a great quantity of earthy and stony particles, which made a sediment upon the face of the antediluvian earth, and buried all the old world under it." *Whiston's Theory*, p. 187. 2d. Edit.—"The waters might cover the earth in general, about fifty miles deep, one place with another." *Id.* p. 205.

(2) *Whiston, Lemma LX.*

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in her orbit; but if the earth, and her moon, would have been (as we have said) drawn into the sun, the increased power of attraction in the central body, by so great an addition of matter, would necessarily involve the comet in the same fate.

But to return to the earth, with this prodigious quantity of additional matter deposited on it, by the comet. Since the diameter of the sun is, by computation, 822,148, and that of the earth 7967 miles; let us suppose the quantity of matter in each of these bodies, to be proportional to their diameters, which, in round numbers, let us suppose to be, in the sun, 800,000 parts; and in the earth, 8000: now, whatever was the momentum, or quantity of motion impressed on the earth, at the beginning, it must have been in such proportion to the power of attraction in the sun, as by that power to be retained in her orbit, so long as the centrifugal and centripetal forces should continue the same; but whenever any foreign matter should be added to the earth, for instance, if to the 8000 parts supposed to be contained in her, we add 1000, the centripetal force would be increased to such a degree, that the earth would necessarily fall into the sun: and by so great an addition to the quantity of matter in the body of the sun, its greater power of attraction, would as necessarily increase the centripetal force of every planet, and every comet in the System, (unless at the same time, their centrifugal forces should have been increased) and thus would every one of them have been absorbed into, and vitrified by, the sun.

It is pleasant to see this wild, extravagant, and unphilosophical hypothesis exposed, by two or three short questions, with which the prophet *Isaiah* (1), in all the sublimity of sentiment, and energy of language, sets forth the geometrical exactness of the

(1) Isa. XL. 12.

creator, in his creation and formation of the System in general, and of the earth in particular. “ *Who hath measured the waters*
 “ *in the hollow of his hand? and meted out the heavens* [the hea-
 “ *venly bodies] with the span, and comprehended the dust of the*
 “ *earth in a measure, and weighed the mountains in scales, and the*
 “ *hills in a balance?*

The authors of the *Universal History*, justly dissatisfied with this unphilosophical hypothesis of *Mr. Whiston*, and the truly philosophical romance of *Dr. Burnet*, are of opinion, “ That the di-
 “ vine assistance must be called in on this occasion. For though
 “ the waters which covered the earth at the creation, might
 “ have been sufficient to cover it again; yet how this should be
 “ effected by mere natural means, (they think) cannot be con-
 “ ceived. The waters which were suspended in the clouds, might,
 “ indeed, descend upon the earth, and that in cataracts, or
 “ spouts of water (as the *Septuagint* interpret the *windows of hea-*
 “ *ven*), like those in the *Indies*, where the clouds frequently, in-
 “ stead of dropping, fall, with a terrible violence, in a kind of
 “ torrent; and this alone might cause a great inundation in the
 “ lower grounds: but as the clouds could pour down no more
 “ water than they had, which would soon be exhausted at this
 “ rate, it seems from the length of the rains continuance, that
 “ the showers were rather moderate, and gradual. The subter-
 “ raneous stores would afford a more plentiful supply to com-
 “ plete the deluge, and probably contain more water than
 “ enough to drown the world, to a greater height than *Moses* re-
 “ lates: the only difficulty is, to draw it out of the abyss on the
 “ surface of the earth. And here, since we can assign no na-
 “ tural cause, we apprehend we may, not unphilosophically, re-
 “ solve it into the divine power, which might, on this occasion, so
 “ far controul (no greater a miracle than that of continuing) the
 “ usual course of nature, as to effect its purpose. And, indeed,

“ the event was so extraordinary, and the consequences thereof
 “ so considerable, that it is very reasonable to believe *God did, in*
 “ *an especial manner, interpose therein* (1).”

Of the same opinion is the learned *Mr. Keil*, “ who thinks
 “ it impossible to give a true and mechanical account, of that
 “ great deluge of waters which once overwhelmed the face of
 “ the whole earth, it being a work not to be performed without
 “ the extraordinary contrivance of the divine power (2).” “ The
 “ deluge was the immediate work of the divine power, and—no
 “ secondary causes without the interposition of omnipotence,
 “ could have brought such an effect to pass (3).”

But with great deference to the judgment of these learned writers, though it is evident from the history, that God did in an especial manner interpose in this matter, (for he himself says, *Behold I, even I, do bring a flood of waters upon the earth*—ch. VI. 17.) yet we cannot but think, we have already laid the foundation of a true and mechanical account of the deluge, in the peculiar mechanism and construction of the earth, as explained in the preceding chapter. For, from so particular a disposition of the several parts of the terraqueous globe, it is evident, that notwithstanding its foundations were laid on so weak and unstable a thing as water, yet, if all the fountains of the great deep had not been broken up, (for to this, as to the principal cause, the deluge is ascribed by *Moses*), the earth might have lasted as long as the system; for so long as the power of gravitation had continued in force, the immense pressure of the waters of the ocean, on those of the great deep, would for ever have secured them within the bounds ap-

(1) Universal History, Vol. I. p. 217, 218.

(2) *Keil's Remarks on Mr. Whiston's Theory of the Earth*, p. 140.

(3) *Id.* p. 141.

pointed for them, and thereby have prevented the earth's being destroyed by water (1).

Now if these were the circumstances of the earth, before the deluge, nothing more was wanting to complete this destruction, than to break up all the fountains of the great deep, that is, to take off the immense pressure of the grand ocean, from the subterraneous waters, by some powerfully attracting body, by which means those waters would naturally flow, as from so many fountains, into the seas; and so long as such body should exert its influence in elevating the waters of the seas, those of the abyfs could not cease to flow, till they had covered the face of the whole earth.

For, since the law of universal gravity extends to every body in the System, (and we have elsewhere (2) proved, that the comets of our system being heavenly bodies, are included in the *Mosaic* account of creation,) if any one of these heavenly bodies be placed near a planet, the waters of the seas of such planet, would necessarily be raised above their surface, in proportion to the quantity of matter in that body, and its nearness to the planet (3). Now that the fountains of the great deep, (in the

(1) P. 76.

(2) *Moses and Bolingbroke*, p. 51.

(3) "If any of the heavenly bodies be placed near a planet, by the inequality of its attraction of the parts at unequal distances from it, a double tide, or elevation of the fluids thereto belonging, whether they be inclosed within an orb of earth, or whether they be on its surface above, must certainly arise; and the diurnal motion of such planet being supposed, must cause such a successive flux, and reflux of the said fluids, as our ocean is now agitated by." *Whiston*, *Lemma LXXXII.* p. 66.

But here it must be remembered, that as the waters of the abyfs were not inclosed within an orb of earth, but had a free communication with those on the surface, instead of a double tide, or a successive flux and reflux of the fluids on the surface, the diurnal motion of the earth would necessarily cause a constant elevation of the waters, till they would have been all drawn out of the abyfs.

Mosaic

Mosaic style,) were broken up; that is, that the immense pressure of the waters of the grand ocean (in the language of philosophers,) was taken off, from those of the abyss, by the near approach of a COMET, at the very time when the deluge began, the great *Mr. Whiston*, to the absolute confutation of his own theory, has abundantly demonstrated.

“ A comet, descending in the plane of the ecliptic towards its
 “ *perihelion*, on the first day of the deluge past just before the
 “ body of the earth (1).” This proposition the author first only
 proposed as a possible case; that is, he only supposed such a
 comet, merely as he thought it would account well and philosophically, for the phenomena of the deluge; without any assurance, that there really was any *comet* so near the earth at that time; “ but proceeding, as he says, (2) in some further thoughts
 “ and calculations on the said hypothesis, he saw abundant reason to rest satisfied of the reality, as well as probability of
 “ what he before had barely supposed.” We shall not enter upon his reasoning, or calculations, but content ourselves with a very extraordinary citation, from the author of remarks on this famous theory; who, though he has made it evident by many considerations, that a *comet* could never have produced those various effects that *Mr. Whiston* has attributed to it; yet is forced to bear this honourable testimony, not only to the probability, but to the reality, of so very remarkable a phenomenon.

“ Tho’ I think it impossible (says *Mr. Keil*) to give a true
 “ and mechanical account, of that great deluge of waters which
 “ once overflowed the face of the whole earth, it being a work
 “ not to be performed without the extraordinary contrivance of
 “ the divine power; yet I cannot but acknowledge, that *Mr.*

(1) *New Theory*, p. 181.

(2) *Id.* p. 182.

“ *Whiston*,

“ *Whiston*, the ingenious author of this *New Theory of the Earth*,
 “ has made greater discoveries, and proceeded on more philoso-
 “ phical principles, than all the theorists before him have done.
 “ In his theory there are some very strange coincidents, which
 “ make it indeed probable, that a comet at the time of the de-
 “ luge passed by the earth. It is surprizing to observe the exact
 “ correspondence between the *lunar* and the *solar* year, upon the
 “ supposition of a circular orbit, in which the earth moved be-
 “ fore the deluge. It cannot but raise admiration in us, when
 “ we consider, that the earth at the time of the deluge, was in
 “ its *perihelion*, which would be the necessary effect of a comet
 “ that passed by at that time, in drawing it from a circular to an
 “ elliptical orbit. This together with the consideration that the
 “ moon was exactly in such a place of its orbit at that time, as
 “ equally attracted with the earth, when the comet passed by,
 “ seems to be a very convincing argument, that a comet really
 “ came very near, and passed by the earth, on the day the de-
 “ luge began (1).”

To apply this amazing discovery to the *Mosaic* account of the deluge, little more is necessary, than briefly to recapitulate, what has been already advanced on the peculiar construction of our terraqueous globe: the sum is this—The whole body of waters that in the beginning covered the whole surface of the earth, was commanded unto one place; this one place was, as we have proved (2), the great abyss under the earth, together with the channels prepared for the seas. These waters, therefore, under the earth, and in the seas, communicated with each other, by as many submarine passages, or outlets, from the abyss, as there were seas, over

(1) *Keil's Examination of Dr. Burnet's Theory of the Earth, and Remarks on Mr. Whiston's Theory.*

(2) P. 74. 75.

the face of the whole earth ; for which reason, these outlets are with great propriety stiled the FOUNTAINS of the great deep. Now this communication, (which by the way is manifestly implied in that, otherwise unintelligible expression, *one place*,) is so absolutely necessary to a rational and mechanical account of the breaking up of those fountains, that is, of the effect produced on the waters of the whole earth, by the near approach of this comet, that though the vicinity of such a body would raise a very strong tide, in any of the seas objected to it, and cause a partial and temporary inundation, yet, if there had been no such communication, if the abyfs had been, as *Mr. Whiston* supposes it, a dense and heavy fluid, encompassed on all sides with a thick crust of earth, lying close upon it ; it would have been absolutely impossible, in such a case, that the waters could have been drawn out of the abyfs, upon the surface, by the near approach of the greatest comet in the System.

But as the waters in the seas, were but a continuation of those in the abyfs, (for since at the creation, the waters of the whole earth were but one body ; and at their separation from the dry land, as the abyfs must have been full, before the waters that remained on the surface could be called seas, they were still but one body) the very strong and prodigious tide, that would be raised in the seas, that from the diurnal motion of the earth, would successively be objected to the comet, would necessarily continue to flow, as long as the seas could be supplied with water, from the several fountains of the great deep ; and, unless the laws of nature were miraculously suspended, the waters thus raised out of the abyfs, would naturally diffuse themselves over the whole surface, till, the foundations being removed, the superincumbent earth would necessarily sink into the abyfs, and by its fall, would as necessarily force up the remaining waters towards the surface, and thereby complete the universal destruction.

If a comet therefore, on the first day of the deluge did really pass by the earth; and if all the fountains of the great deep were broken up, on the very day that this comet passed by the earth; then the deluge was the necessary consequence of that comet's passing by the earth. Hence it is very evident, that the deluge was universal: for if the subterraneous waters were thus drawn out of the abyfs, and mixed with those of the ocean; the earth must have been in the same circumstances, as on the beginning of the third day, before the dry land had appeared.

We come now to enquire, by what means the waters were carried off from the earth: and indeed, if by the near approach of a comet they were drawn out of the abyfs, and diffused over the surface, it is natural to conclude, that when the comet had passed by the earth, and had got beyond the sphere of their mutual attraction, the waters would of necessity have returned, if there had been any submarine passages, through which they might have passed: but the abyfs was now no more: the solid earth, by falling into the place of the abyfs, had dammed up every avenue to it; and thus in the language of *Moses*, *the fountains of the deep were stopped*. Yet notwithstanding, the same *Moses* is as express, that the waters *returned*, or *were returning off the earth continually*. The earth, therefore, being now in the same circumstances, as at the beginning, when the whole body of waters covered the surface of the globe; it was as necessary, that a passage should be opened into its inmost bowels, for the reception of such a quantity of the superincumbent waters, as was necessary to make the dry land appear in the one case, as in the other. But here let it be remarked, that there seems to be a certain uniformity in the proceedings of the Almighty, which runs through his acts of providence, as of creation. When, at the creation, the waters were commanded into the abyfs, their descent, (if with any propriety it may be called a descent) was

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instantaneous: and though in order of nature, we are under a necessity of conceiving of a *place*, before we can frame any idea of what may be contained in *that place*; yet, when the subject is creation, we must conceive of the creator's commanding the waters from the surface into the abyfs, and of his preparing the abyfs to receive those waters, as one simple act of omnipotence: but now, that the laws of nature were established, and the waters were brought upon the surface, by natural causes; the uniformity of the divine proceedings in natural things, seems to require, that the waters of the flood should be carried off from the earth, by natural means alone.

Accordingly, when the mountains were covered, and the flood was at the highest, previously to the waters returning off from the earth, *Moses* ascribes the abatement of the waters to a natural cause; a cause every way adequate to the mighty effect it produced, in opening a GRAND CHASM in the body of the earth, for the reception the of returning waters.—*And God made a WIND to pass over the earth, and the waters assuaged. The fountains of the deep, and the windows of heaven were stopped, and the rain from heaven was restrained. And the waters returned from off the earth continually; and after the end of the hundred and fifty days (the time that they had prevailed upon the earth) the waters were abated. The abatement, therefore, of the waters, and their return from off the earth, were the necessary consequences of this wind (1).*

The critics, indeed, universally, not attending to the context, not considering that the waters returned, or were returning from off the earth continually; (nor could they be said to return, unless they went back into the bowels of the earth, from whence

(1) Gen. VIII. 1, 2, 3.

they were brought upon the surface,) scruple not to say,—“ This
 “ wind was a drying or burning wind, like that of *Exod.* XIV.
 “ 21. which had a natural power to dry up the waters (1).”
*Consentaneum est ventum illum quem excitaverat Deus ut aquas
 exsiccaret, ex aquilone flavisse in austrum.* Bochart. Hierozoic.
 “ This wind, it is very probable, was the north wind, which
 “ is very drying, and drives away rain, *Prov.* XXV. 23 (2).”
 “ That wind which God sent to dry the waters away (3).”
 When the Almighty makes use of natural means to bring about
 his will, he always proportions the cause to the effect; but what
 proportion is there between a power in any wind, to lick up
 particles of water from the surface, and to dry away the waters
 of *so immense and boundless an ocean*, as *Dr. Halley* calls the waters
 of the flood (4)? For by the testimony of the same great philo-
 sopher, the natural power of a drying wind is exerted, by licking
 up the surface of the waters. “ There remains, says he, ano-
 “ ther cause of the sea’s being raised in vapour; I mean the
 “ winds, whereby the surface of the water is licked up, some-
 “ what faster than it exhales by the heat of the sun, as is well
 “ known to those that have considered these drying winds,
 “ which blow sometimes (5).” But besides, if this wind was
 sent to dry up the waters, so exact a writer as *Moses*, would have
 used the same phraseology, as when he speaks of the earth, in
 the work of the first day, whilst it was, as now, covered with
 water; he would have said, God made a wind to pass over *the*
face of the waters, or over *the face of the deep*. The natural
 inference from hence is, that the Earth, in this passage, must sig-
 nify the Earth that was overwhelmed with water, the solid body
 of the Earth; and therefore the *wind* cannot possibly mean, the

(1) Pool.

(2) Bp. Patrick.

(3) Dr. Halley, in Lowthorp’s Abridg. Vol. VI. Part II. p. 2.

(4) Id. Ibid.

(5) Lowthorp, Vol. II. p. 110.

air of our atmosphere in motion, but a *subterraneous wind*; which God made to pass *through* (1) the body of the solid earth.

Among other causes, to which naturalists ascribe earthquakes, *Air* is, perhaps, the most considerable. Now, as wind, whether on the surface, or in the bowels of the earth, is nothing else but air in motion; (and God had, from the beginning, furnished the earth with proper materials to put the subterraneous air in motion (2), this passage — *God made a wind to pass through the earth*, by a common metonymy of the cause for the effect, is equivalent to—*God made a new thing, and the earth opened her mouth and swallowed up the waters of the flood*. And this is agreeable to what historians take notice of concerning the subterraneous

(1) *Pass through*. —“ The word in the original importeth a constant, progressive motion, without stopping: and so naturally signifies, I. To pass, to pass on, move forward. II. To pass *through* a land, or an army, is to go through all the parts of it.” *Taylor's Heb. Concordance*.

(2) *Mr. Amontons*, in the *Memoires de l'Academ.* an. 1703, has taught us how to conceive of the prodigious effect of subterraneous air, when put into motion by heat.

That the same degree of heat renders the spring of the air much more violent, when that air is most condensed, is the principle which led this ingenious author to the construction of a new Thermometer, and to the means of rendering sensible, and reducing to calculation, the cause of the most violent earthquakes. From this principle he observes, that the air which is in the earth, at different depths, being always more condensed, acquires by the same heat, a strength of spring much more powerful. Air, (he says) at a little more than 18 miles in depth, would be so condensed, that its weight would equal that of mercury, so that were mercury to fall from the surface of the globe to that depth, it would stop there, and be too light to go any further;—and as gold is known to us to be the most heavy body, and that but equal to the weight of the air at the depth of 19 miles, it is clear, that at a greater depth, the weight of the air would infinitely surpass all our known weights, even to an incredible degree. He adds, that as the inflam-

neous winds, that are sometimes attendant on these terrible commotions of the earth (1); for the opening of the earth to receive these waters, was *preceded* by this *subterraneous wind* that passed through the earth, and was immediately followed by the returning of the waters from off the earth: for the intermediate words—*The fountains of the deep, and the windows of heaven were stopped, and the rain from heaven was restrained*, are no other than a declaration, that when God made this wind to pass *through* the earth, the flood was at the highest.

From what has been advanced, in this, otherwise too long a digression, but that it seemed necessary to explain, and illustrate the original separation of the waters that covered the whole earth, from the dry land; we hope it will abundantly appear, that the deluge was not the immediate work of omnipotence, but the effect of natural causes. Nor will this account be less mechanical, when we acknowledge, that it was performed, not without the contrivance of the divine power, and wisdom: power—in

inflammation of the mineral substances produces in the earth, a degree of heat more violent, beyond comparison, than the heat of boiling water, it is not at all surprising, that air so dense, and so heated, should be capable of heaving up grand portions of the surface of the earth, and sometimes of overturning them."

(1) "The earthquake" (at *Antioch*) "was preceded by violent claps of thunder, unusual winds, and a dreadful noise under ground: then followed so terrible a shock, that the earth all trembled; several houses were overturned, and others tossed to and fro like a ship in the sea." *Univ. Hist.* Vol. XV. p. 139.

"The sun was overcast, and a great darkness continued for several days together, attended with a violent earthquake, and dreadful claps of thunder, *not in the air, but in the bowels of the earth*, which opened in many places, and swallowed up numbers of people with their habitations." *Id.* p. 435.

laying the foundations of the earth, on the waters of the great abyfs; and establishing those foundations BY water, viz. by the vast and prodigious pressure of the superincumbent water of all the seas on the face of the whole globe. Wisdom—in preparing one of the bodies of the System, and adjusting its astonishing motion, in so exact a manner, that when the creator called for the waters of the sea, to pour them out upon the earth, the obedient comet was at hand, to execute the threatened vengeance.

C H A P. VIII.

Σώματα δὲ αὐτῶν ἑκάστων [τῶν πλανητῶν] ποιήσας ὁ ΘΕΟΣ ΕΘΗΚΕΝ 'ΕΙΣ ΤΑΣ ΠΕΡΙΦΟΡΑΣ, ὥς ἡ θατέρη περιόδος ἦεν, ἐπ' αὐτοῖς ὅγ' αὖ ἐπ' αὐτῶν. Ipforum ergo planetarum corpora ita fabrefacta atque composita, COLLOCAVIT DEUS AD MOTUS ET CIRCUITUS quas alterius [alterutius] motus deducit, septem quidem illas, quum et ipsi sunt septem. Plato, in *Timæo*.

The Fourth Day.

Ver.

14. **A**ND God said, Let there be lights in the firmament of the heaven, to divide the day from the night: and let them be for signs, and for seasons, and for days and years.
15. And let them be for lights in the firmament of the heaven, to give light upon the earth.
16. And God made [had made] two great lights; the greater light to rule the day, and the lesser light to rule the night: the stars also.
17. And God set them in the firmament of the heaven, to give light upon the earth,
18. And to rule over the day, and over the night; and to divide the light from the darkness. And God saw that it was good.
19. And the evening and the morning were the fourth day.

Let there be light—and let there be lights in the firmament of the heaven,—are expressions, as different, as words can express the different and distinct acts of the creator, on the first, and on this fourth day. When God said, Let there be light—there was no light,

light, nor any luminous body in the System, till by that commanding *fiat*, the body of the sun became a globe of fire; for till then, darkness was upon the face of the deep. But when God said, *Let there be lights in the firmament of the heaven, to divide the day from the night*, there were actually in the firmament of our heaven, *two*; in that of *Jupiter*, *five*; in the heaven of *Saturn*, *six great lights*; and they had already divided the day from the night on each of these planets; for this was the necessary consequence of that diurnal motion, which the Spirit of God had communicated to them, the moment the sun became a globe of fire (1). That the greater light, therefore, the sun, had been actually in the firmament the three first days of the creation, is evident; because it was impossible there should have been any evenings and mornings to constitute those days, without a sun. It is, therefore, extremely absurd to say, the sun was created on this fourth day (2): for when God had said, *Let there be light; and there was light*; and when, by giving the earth its diurnal motion, he had divided the light from the darkness; God himself called that light, *day*; and the darkness which succeeded that first day, he called *night*. Since, therefore, the day depends on the presence, and the night on the absence of the sun, on any given hemisphere of the earth, or any other planet, the sun must necessarily have been the fountain of that light, which God himself called, day.

Now, since these great lights were, on our *fourth* day, in the firmament, in the heavens of the earth, and of the several primary planets, and had actually enlightened them for three of our days, and yet are here expressly appointed to divide the day from the night, (which they had already done for three days) but, at the same time, to be for signs, and for seasons, and for

(1) See p. 62, 63.

(2) See p. 56, 57, in the notes.

days and years; and, in consequence of this appointment, the historian adds, *And God SET, PLACED, them in the firmament of the heaven*, [of our earth, and the same is to be understood of the other primary planets] set them, in such a manner, as to answer all the purposes to which they were appointed: and since there was, as yet, no other division of time, to us, (nor could there have been any other, to the other planets in the System) than that of day and night; no other motion could have been communicated to the sun, or any other body in the System, than that which carried them about their respective axes, till this *fourth day*. It is very evident, therefore, that to produce these effects, the creator must have impressed the planets, &c. with some other motion; and, therefore, that the work of this day was, his communicating such a motion; which is beautifully represented to us, by that expressive image, of GOD'S SETTING these lights in the firmament of the heaven, to give light upon the earth, &c. And here let it be observed, that as the greater light the sun, stands in the same relation to every primary planet in the System, as it does to the earth; and as the satellites of *Jupiter* and *Saturn*, bear a similar relation to their primaries, as the moon bears to our earth, the application of the *Mosaic* text to every primary planet, as well as to the earth, in the following paraphrase, will fully demonstrate the truth of our first proposition, viz. *That the MOSAIC CREATION is an historical account of the creation and formation of the Solar or Planetary System; exclusive of every other Being, or System of Beings, in the Universe.*

The Fourth Day Paraphrased.

Ver. 14. *And God said, Let there be lights*, [luminous bodies, set, placed, arranged] *in the firmament of the heaven* [of the earth and every primary planet, in such a manner, as] *to divide* [minutely, and with the utmost astronomical precision and exactness,

to divide] *the day from the night* : and let them be [so set, placed, arranged, that they may be] *for signs*, [to distinguish times] *and for seasons, and for days and years*, [to every primary planet.] (1).

Ver. 15. *And let them be for lights* [for luminous bodies] *in the firmament of the heaven*, [of every primary planet] *to give light* [their various light] *upon the earth* : [upon Jupiter, Saturn, &c.] *and it was so*.

Ver. 16. *And God*, [on the first day] *had made* [for the earth two, for Jupiter, five, and for Saturn, six] *great lights* ; *the greater light* [the sun] *to rule* [to govern, to regulate] *the day* ; [from its first dawning, to its setting in darkness on every primary planet] *and the lesser light* [the moon, and of the other planets, the lesser lights, the moons] *and the stars* [the other primary planets] *to rule* [to govern and regulate] *the night*, [on each of them.]

Ver. 17. *And* [by impressing the planets with an uniform projectile motion in streight lines, and at the same moment of time communicating to the sun, and to every body in the System, a power of attraction, or gravitation] *God set* [placed] *them in the firmament of the heaven* [of each of the primary planets, two] *to give light upon the earth* [five to give light upon Jupiter, and six to enlighten Saturn.]

Ver. 18. *And to rule over* [to govern and regulate] *the day, and over the night* ; [on each of them] *and to divide the* [various] *light* [of

(1) Σωμᾶτα δὲ αὐτῶν ἑκάστων [τῶν Πλανητῶν] ποιήσας ὁ θεός, ἐθήκεν εἰς τὰς περιφοράς, ἃς ἡ θαλάσσης περιόδος ἔχει, ἑπτὰ οὐσας, ὅντα ἑπτα. Ipforum ergo planetarum corpora ita fabrefacta et composita COLLOCAVIT DEUS AD MOTUS ET CIRCUITUS quas alterius [alterutrius] motus deducit, septem quidem illas, quum ut ipsi planetæ sint septem. PLATO, in ΤΙΜΑΙΟ. Tom. III. p. 38. Edit. SERRANI.

every day of their different years] *from the darkness* [of every night on the earth, and every other planet :] *And God saw that it was good* ; [that this arrangement of the several bodies, would answer all the mechanical purposes, for which he designed them, when he created them, to make them, to form them, into a System, a System of habitable worlds.]

Ver. 19. *And the evening and the morning were* [on the Earth, on the planets, Venus and Mars,] *the fourth* [on Jupiter and Saturn, the ninth] *day*.

The sum of this most concise, yet full and comprehensive account of creation, when stripped of its antient dress, in which the historian received it from the creator, is—That in the beginning of time, as time is measured to the inhabitants of the earth, and of every planet in the System, God, out of nothing, out of no pre-existing materials, commanded into Being, the several masses of matter, of which the sun, the moon, and every other planet, with the comets of our System, were formed. That the earth, and every other of these bodies, were created mere masses of matter ; each of them a distinct, confused fluid chaos ; without any form, except what arose from that gravity, or particular tendency of their several particles to the centres of their respective masses ; void of motion, light, and heat (1) ; when the Spirit of God impressed a violent motion on the fluid surfaces of every planet, and of the sun itself (2) : at the same moment God commanded light to shine out of darkness—*Let there be light*, he said,—and the immense chaotic body of the sun instantaneously became a globe of fire ; *and there was light* (3). On the second day of our earth, and on those days of the other planets, that coincided in the whole, or in part with our second,

(1) Prop. IV. VI.

(2) Prop. VII.

(3) Prop. VIII.

God made atmospheres, to all the bodies in the System. On our third, and the correspondent days of *Jupiter, Saturn, &c.* God separated the waters from the dry land, on every planet, agreeable to our Prop. X. (1). On our fourth day, that grand day of creation, when the System was completed, God impressed the primary planets, with their annual motion round the sun; their moons, with a motion round their primaries; and the comets, with their periodical motions; and at the same time, fixed, and established the law of UNIVERSAL GRAVITY to every body in the System (2).

This is the THEORY, the MOSAIC THEORY, OF THE SOLAR OR PLANETARY SYSTEM. And sure I am, that nothing could have been more natural, or indeed more philosophical, in a professed history of the creation of such a System, than for the writer to ascribe to the first Almighty cause, the giving being to matter, to the several distinct masses of matter, of which the various bodies in the System were formed;—to specify the state and condition of these bodies, when they came out of the hands of the creator;—to describe the manner of his preparing them for the purposes they were respectively to serve;—and then to discover to us the wonderful method, which the Almighty took, in forming them into a System, by establishing those laws of nature (3), by which his all-powerful hand directs, and governs, the amazing frame.

We

(1) Prop. X. That every planet, that rolls about the sun, was formed, in the same manner, as the earth was formed.

(2) Prop. IX. That general gravity, did not take place in our System, till the fourth Day.

(3) To this original establishment of the laws of nature, the prophet JEREMIAH manifestly refers, ch. XXXI. 35. *Thus saith the Lord, which giveth the sun for a light by day, and the ordinances of the moon, and of the stars, for a light by night.—*

And

We have already observed, that among the various references and allusions to the work of the different days of the creation, scattered up and down in the sacred writings, the author of the epistle to the *Hebrews*, speaking of the creation, has given a striking testimony to our interpretation of the very first words of *Moses* (1). But since we have gone through the proof of those propositions, which seem to us to contain, the true principles on which the *Mosaic* doctrine of creation is founded, and which appear to be the same with those, by which the Copernican System subsists; give me leave to confirm and establish what we have advanced on this subject, by producing a passage in the writings of another inspired writer, in which the creation of the Solar, or Planetary System, is *graphically* described.

PSALM XIX. ver. 1—6.

1. *The heavens* the heavenly bodies, the sun, the moon, and the other planets, which in the beginning God created with the earth, *declare the glory*, the infinite power, and incomprehensible wisdom, *of God: and the firmament*, in which he set them, to give light upon the earth, and upon *Jupiter, Saturn, &c.* and to rule over the day, and over the night, and to divide the light from the darkness, on each of them; and to be for signs, and for seasons, and for days and years; the firmament *sheweth his handy work.*
2. *Day unto day uttereth speech, and night unto night sheweth knowledge.* And because God hath divided, imparted, them unto all
3. nations under heaven (2), *there is no speech nor language where their voice is not heard.*

And that this establishment was to last as long as the System, he adds, ver. 36. *If those ordinances depart from before me, saith the Lord, then——i. e. they shall never depart.*

(1) See p. 26, 27.

(2) Deut. IV. 19.

4. *Their line* their regular motions, in their respective orbits, is gone out, is discovered, *through all the earth, and their words* proclaim the almighty mover, *to the end, to the utmost parts, of the world: in them, in the midst of them, in the centre, hath* he set, placed, *a tabernacle, a place of residence, for the sun.*
5. *Which, glorious in his apparel, is as a bridegroom coming out of his chamber, of the East; and, travelling in the greatness of his strength, rejoiceth as a strong man to run a race.*
6. *His going forth, to run his daily course, is from the end of heaven, from that point of the heaven, that terminates our sight in the east, and his circuit unto the ends of it, in the western horizon: and there is nothing, no body in the System, hid from, or deprived of, the light, or, the heat thereof.*

CHAP. IX.

Of GRAVITY.

GRAVITY is that principle or law of nature, whereby all bodies, and all the particles of bodies, gravitate towards each other. The immortal NEWTON considers the tendency itself, to whatever cause such effect may be owing, whether to a power inherent in the bodies themselves, or to the impulse of an external agent; yet he no where asserts this property to be essential to matter: and indeed, if motion, in general, be not, how is it possible that gravity, which is a species of motion, should be essential to matter?

But though so sensible a phenomenon cannot be accounted for, on philosophical principles, some light may, perhaps, be thrown on this intricate subject, by *Moses*. For, from what has been advanced, in our explication of his doctrine of the creation, may not the two following corollaries be admitted?

COROLLARY I.

“ That *particular gravity*, whereby the particles of all bodies
 “ mutually tend to each other, and to the centres of their re-
 “ spective masses, is coeval with the creation of those bodies, or
 “ of the masses of matter of which, at their creation, they
 “ consisted.”

COROL-

COROLLARY II.

II. But “That the principle or law of *universal gravity* was
 “impressed, by the creator, on all the bodies of the Solar Sy-
 “stem, on our fourth day.”

That all the bodies in the Solar System were created, with a particular tendency of their particles to each other, and to the centres of their respective masses; or, that immediately upon their creation, this particular tendency was superadded by their creator, is evident, from their having been created distinct bodies, different and distinct masses of matter, in a fluid chaotic state: and that they were, at their creation, spheres, the consequence of this particular tendency, is evident, from the present demonstrated figure of each of them, the necessary effect of their rotation about their respective axes, whilst they were in a fluid state; for no bodies, except spheres, by a rotation about their axes, could possibly acquire the form of oblate spheroids (1). The sphericity of the earth, which depends upon, as it is the effect of this particular gravity, is beautifully represented by a most antient inspired writer, when, speaking of creation, he says,—
 (2) *He hangeth the earth upon nothing*—upon its centre, a mere imaginary point, which is nothing; and as the other bodies of the System, were at their creation, in similar circumstances, it is natural to conclude, that the creator hangeth them all upon nothing.

But though the particles of these separate and distinct masses of matter, had from the beginning a tendency to their respective centres; yet the bodies themselves had no such tendency to each

(1) See *Moses and Bolingbroke*, p. 33, 34.

(2) Job. XXVI. 7. *He stretcheth out the north over the empty place, and hangeth the earth upon nothing.*

other, for that the planets, &c. did not from the beginning, gravitate towards the sun, nor the sun towards the planets, &c. for the space of three of our days, is very evident, from this single consideration; that though they revolved about their respective axes, the bodies themselves remained, otherwise, at rest, in those portions of space, which they possessed at their creation, till our *fourth* day (1). For MOSES is express, that *three* evenings, and *three* mornings had been completed on our earth, before God SET, or PLACED, the great lights in the firmament of the heaven, to give light, their various light, upon the earth, and to be for signs and for seasons, and for days and years: Now, as these mighty effects have been constantly and invariably produced, by the annual motion of the primary planets, about the sun, and the periodical and synodical motions of the moons, about their primaries; God's SETTING the great lights in the firmament of the heavens of every primary, can have no other possible meaning, than his impressing these bodies with such motions, as would produce the above-mentioned effects.

It is evident, that the primary planets are carried about the sun, and the moons about their primaries, by a motion compounded of a projectile force, according to the tangents of their orbs, and the power of gravity. Now, since no other motion had hitherto been communicated, to any body in the System, except that which caused them to revolve about their respective axes; and since Gravity is not innate, inherent, and essential to matter (2); the bodies themselves must have been, (as we have before

(1) See p. 54, 55.

(2) "That Gravity," (says *Sir Isaac Newton*) "should be innate, inherent, and essential to matter, so that one body may act upon another at a distance through a vacuum, without the mediation of any thing else, by and through which their action and force may be conveyed from one to another, is to me so great an
O " absurdity,

before observed,) at rest. But as the primary planets move about the sun, and the moons about their primaries, by means of this compound motion, the projectile force must, not only have been impressed on them, in their original places of rest, but, because this force was impressed, according to the tangents of their several orbs, they must, at their creation, have been placed, at the same precise distances from the sun, and the moons at the same distances from their primaries, as are their present mean distances. Since, therefore, the planets, &c. were originally placed within the sphere of the sun's action, before the impression of a projectile force, if Gravity had been innate, inherent, and essential to matter, the planets, with the comets, would all have gravitated to, and have been absorbed in, the sun: and if the projectile force had been impressed before the power of Gravity had taken place, "they would" (by the first law of motion) "have persevered in that direction, not stopping, or remitting their course, till interrupted or otherwise disturbed by some new power impressed;" but they were projected in straight lines, and yet by the power of Gravity, are to this day preserved in their respective orbs; both these forces, therefore, must have been impressed at one, and the same moment of time. Now, since the great lights were not set, placed, in the firmament of the heaven, till the fourth day; and they could not have been set there, for the purposes they were to serve, and do, to this day, continue to serve, but by the Creator's impressing the planets, &c. according to the tangents of their orbs, and at the same time fixing and establishing the law of *universal Gravity*, these two powers must have been

" absurdity, that I believe no man who has, in philosophical matters, a competent faculty of thinking, can ever fall into. Gravity must be caused by an agent acting constantly, according to certain laws; but whether this agent be material or immaterial, I leave to the consideration of my readers." *Four Letters to Dr. Bentley.*

commu-

communicated to the several bodies in the System on this *fourth* day.

If, therefore, the principles, on which the System of MOSES is formed, be the same with those, by which the Solar or Planetary System is governed; and if “ Gravity is caused by an agent “ acting constantly according to stated laws (1);” these laws must have been coeval with the System; for which reason they are with the greatest propriety called, the LAWS OF NATURE; that is, the laws which the Almighty agent imposed on the motions, impressed by him, when he formed the System. The laws of NATURE, therefore, and the general laws of MOTION, as far as they relate to the System, and every body in the System, are the same. But if, on the *first* day, the Creator did communicate to the several bodies in the System, a motion round their axes; and on the *fourth*, did impress the planets with their annual motion round the sun, it will be expected, that some manifest traces of the general laws of motion, should appear in the *Mosaic* account of the formation of his System.

Let us then see, how the general laws of motion may be applied to, or coincide with, the *Mosaic* doctrine of motion and rest.

The Laws of Motion.

The first law is, “ That all bodies have such an indifference to
“ rest, or motion, that if once at rest, they remain so, till disturb-
“ ed by some power acting upon them: but if once put in mo-
“ tion, they persist in it; continuing to move right forwards per-
“ petually, after the power, which gave the motion, is removed;
“ and also preserving the same degree of velocity or quickness, as

(1) See the preceding note.

“ was first communicated, not stopping, or remitting their course
 “ till interrupted or otherwise disturbed by some new power
 “ impressed.”

The second law is, “ That the alteration of the state of any
 “ body, whether from rest to motion, or from motion to rest, or
 “ from one degree of motion to another, is always proportional
 “ to the force impressed.”

The third law is, “ That when any body acts upon another, the
 “ action of that body upon the other, is equalled by the contrary
 “ reaction of that other body upon the first.”

These laws are found so universally to belong to bodies, that there is no motion known, which is not regulated by them. And here it is worthy of a peculiar remark, that the first of these general laws of motion, is founded on the supposition, that rest is, both in nature and reason, prior to motion. “ All bodies
 “ have such an indifference to rest and motion, that if once at rest (and since motion is not essential to matter, all bodies are at rest till they are once put in motion) “ they remain so, till disturbed
 “ by some power acting upon them.” This is perfectly agreeable to the doctrine of MOSES; for the sun, and every planet in the System, were at rest, till they were disturbed by the power, that, acting upon their several surfaces, caused them to move about their respective axes; and this motion, (by the same law) they “ persisted in,” for three days, “ continuing to move in
 “ the same direction, and with the same velocity, as was first
 “ communicated,” (for these days were equal). And as this motion was about their axes only, their centres must have remained at rest; the bodies themselves, therefore, must have been absolutely at rest; that is, they must have remained in the same portions of absolute, and immoveable space, which they possessed

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at their creation. Here, likewise, (by the same law) “ the sun,
“ and every planet and comet, would have remained, continu-
“ ing to revolve about their axes, till interrupted, or otherwise
“ disturbed by some new power impressed,” which should re-
move them from their original places of rest.

Now, if no new power had been impressed, there could have been no other possible distinction, than of evenings and mornings, days and nights; and as the days would have been equal to the nights, on every planet, there could have been no signs, nor difference of seasons, or of days, or years, to any planet in the System. But new powers were, on this *fourth* day, impressed; the planets and comets, were projected in straight lines, according to the tangents of their orbs, or their trajectories; and at the same time, with a power of gravitating towards the sun: hence, (according to the second law of motion, whereby, “ if
“ the new power be impressed obliquely, there will arise an ob-
“ lique motion, differing more or less from the former direction,
“ according as the new impression is greater or less,”) hence, I say, there would necessarily arise an oblique motion, compounded of the two differently-directed forces, which would carry the primary planets and comets about the sun, and the moons about their primaries.

But the body of the sun was, at the same moment of time, impressed with the power of attracting, or gravitating towards the planets, &c. and this power of attraction, or gravitation, being now mutual, they must have been caused mutually to attract, or gravitate towards each other from the beginning, according to the third general law of motion, viz. “ That action and
“ reaction are equal.” For as the sun acts upon the planets, &c. the action of the sun upon them, is equalled by the action of the planets, &c. upon the sun.

Hence, it evidently appears, that THESE GENERAL LAWS OF MOTION, were fixed and established, as THE LAWS OF NATURE, by the creator, when he, on the *first* day, impressed a violent motion on the surfaces of the earth, and all the heavenly bodies, which caused them to move about their axes; and on the *fourth* day, when he SET the sun, and the moons, in the firmaments of the heavens of the several primary planets in the System, in such a manner, as to produce those effects on each of them, as would be the necessary consequences of those compound motions, by which alone, they could have been SET IN THE HEAVENS, TO BE FOR SIGNS, AND FOR SEASONS, AND FOR DAYS AND YEARS.

C H A P.

C H A P. X.

A General SCHOLIUM.

Be MOSES' works your study and delight ;
Read them by day, and meditate by night ;
Thence form your judgments, thence your notions bring,
And trace RELIGION upwards to its spring.

GENESIS, CHAP. I.

Ver.

31. **A**ND God saw every thing that he had made, and behold it was very good. And the evening and the morning were the sixth day.

CHAP. II.

1. Thus the heavens, [the heavenly bodies,] and the earth, were finished, even all the host of them.
2. And on the seventh day God ended his work which he had made : And he rested on the seventh day from all his work, which he had made.
3. And God blessed the seventh day, and sanctified it : because, that in it he had rested from all his work, which God created to make.

As the institution of a sabbath, or day of rest, in consequence of God's resting, or ceasing, from the work of creation, absolutely depends upon, and is a necessary part of, the *Mosaic* creation ; and, as that is a history of the creation and formation of

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the Solar or Planetary System; may not the following proposition be admitted as a GENERAL SCHOLIUM, naturally flowing from his doctrine of creation? To wit; "That when God had created the System, he became the sovereign Lord of the same, and instantly claimed his right of dominion, over the rational and intelligent part of the creation, by instituting a sabbath, or day of holy rest, to the inhabitants of every primary planet in the System."

The authors of the *Universal History*, say, "Whether the observation of the sabbath, or seventh day, be as old as the creation, as some authors, both Jews and Christians, will have it; from *Gen. II. 3.* or whether that text means no more, than that God set apart that day to be afterwards observed by the *Israelites*, as the far greater part of the fathers and christian commentators understand it; is a question—more curious than important (1)."

But, as there is not, perhaps, any duty, except the worship of the one true God, more strongly insisted on, or more frequently inculcated, in the Old Testament, than the observation of the sabbath, or seventh day; and, as the punishment of the idolater, nay, the enticer to idolatry, and of the profaner of the sabbath, was the same (2); it should seem that, in the estimation of the lawgiver, the profanation of the sabbath, was a crime equal to idolatry: And, indeed, if he that made the heavens and the earth, even all the host of them, (for hereby is the true God distinguished from idols) (3) did really sanctify the seventh day; the denying him the service of his own day, has a natural ten-

(1) *Univ. Hist.* Vol. III. p. 15. Ed. 8vo.

(2) Deut. XIII. 10. XVII. 5. Numb. XV. 35.

(3) Psal. XCVI. 4, 5.

dency,

dency, to alienate the mind from all religion; which is, if possible, worse than idolatry.

It is not at all surprizing, that in their endeavouring to trace up planetary worship as near as possible to its source, these learned gentlemen should determine for the *curious*, rather than the *important* side, of the above question, when they have suggested a reason for the superior antiquity of the *sabbath*, or *seventh day*, of so very *curious* a nature, that whoever admits it, may strike the fourth commandment out of the decalogue. They say, “ God
“ created the world, or this System, in six days, and rested the
“ seventh. This was the foundation of the *Antediluvian*, as well
“ as the *Hebrew* week; and seems to be the reason, that the
“ number *seven*, was so remarkable both amongst the *Antediluvians*,
“ and the *Hebrews*.”——“ Now it is observable, that there is
“ a surprizing analogy, betwixt the days of the original week,
“ and the System then created. The six primary planets (for
“ the moon is the satellite of the earth) move round the sun,
“ which is fixed, or at rest, and together they are in number,
“ *seven*. This answers exactly to the six days of work or mo-
“ tion, and one of rest, in all seven, of which the original
“ week did consist. Thus the *Mosaic* account of the creation, is
“ a symbolical description of the world, or System created. And
“ such descriptions as these were perfectly agreeable to the
“ genius of the *Orientals*, especially the *Egyptians*, in the first
“ ages, and particularly in that wherein *Moses* lived (1).”——
“ As infinite power cannot be confined in its productions, to any
“ particular part of duration, and as the manner of every one of
“ the divine operations must be calculated to serve some wise
“ end; we may presume, that there was some final cause, why
“ the world, or this System, was created in *precisely* six days,

(1) *Univ. Hist.* Vol. XVII. p. 269.

“ which, in conjunction with a *seventh*, formed the first period
 “ of time. Now it will not be easy to assign a more rational
 “ one, than we have hinted above, to wit, that this was done
 “ with a design, to point out to the first inhabitants of the earth,
 “ the principal parts of which the System then created, did consist :
 “ as likewise to remind them in a particular manner, every
 “ *seventh* day, that these *seven* heavenly bodies were created by
 “ God, intirely dependent upon him, and therefore, ought not to
 “ be esteemed as objects of adoration. The great propensity of
 “ mankind in after ages, particularly the *Hebrews*, God’s own
 “ people, to this species of false worship, adds no small weight
 “ to our hypothesis (1).”

It is true, that “ God created the world, or this System, in
 “ six days, and rested the *seventh*.” “ And this was the foun-
 “ dation of the *Antediluvian*, as well as the *Hebrew* week.”
 Now if the days had been the same, on every planet in the Sy-
 stem, as on the earth, there might, perhaps, have been some
 plausible pretence, for this *surprising* analogy, between the days of
 the original week, and the System then created : but since the
 earth is but one of the planets that God created in six days,
 which in conjunction with the *seventh*, formed the first period of
 time to us ; if the analogy does not hold betwixt the days that
 formed the first period of time, on the planet *Jupiter*, and the
 System created, (for *Jupiter* is a planet of the same System,) the
 fancied analogy is lost. For instance, “ God created the world,
 “ or this System, in *fourteen* days, as days are measured to the
 “ inhabitants of that planet, and rested the *fifteenth* :” This
 would have been the foundation of the first period of time, on
Jupiter, or the first *Jovial* week ; and, consequently, the number
fifteen, would have been as remarkable amongst the inhabitants of

(1) *Univ. Hist.* Vol. XVII. p. 272.

Jupiter, as the number *seven* has been with us. Since, therefore, *Jupiter* is a planet of the same System, and was created with the earth; it is very evident, that there can be no possible analogy, betwixt the days of the first period of time on *Jupiter*, or the first *Jovial* week, and the System then created; and, consequently, the *Mosaic* account of creation, cannot possibly be, a *symbolical description of the world*, or System created.

But let us now change the question, with the planet, and ask, (as an inhabitant of *Jupiter* might ask) “ why God created the “ world, or their System, in precisely fourteen days, and rested “ the fifteenth?” and we shall discover a very remarkable, and surprising analogy, betwixt the days of our original week, and the days of the first period of time, on *Jupiter*, and, indeed, on every planet in the System; for the System was finished on our *sixth* day; on the *sixth* of *Venus*, and *Mars*; and on the *fourteenth* of *Jupiter*, and *Saturn* (1).

Now it was fit and reasonable, in the nature of things, worthy of the Lord and Governor of the System, to appoint to his rational and intelligent creatures, some fixed and stated portion of time, for the celebration of his infinite perfections, so particularly discovered to them, in the creation and formation of their System.

Here then, we may plainly discern the true FINAL CAUSE, why the world, or this System, was created in precisely six days, as days are measured to us; to wit, to introduce the *seventh*, as a day of holy rest. It is true, “ Infinite power cannot be confined in its productions, to any particular part of duration;” but if, from the narrowness of our conceptions of the divine be-

(1) See the annexed Tables.

ing, and his operations, we extend the several acts of creation to any part of duration, beyond what the creator himself has revealed to us, we shall greatly err. We have authority from him, who made the world, or this System, to say,—*In six days the Lord made heaven and earth* (1); but we have no authority to say,—God was *employed* six days in making the heaven and the earth: whereas, in the history of the creation, notwithstanding the specification of the days of God's working, he is represented in all the majesty of omnipotence, as finishing the different parts of his work, in SIX MOMENTS,—*He spake, and it was* (2) — *Let there be light—and there was light* (3) — *Let there be a firmament—and it was so* (4). It is very evident, therefore, that these MOMENTS are, with divine propriety, called (for God himself named them) DAYS; because no other act, or acts, of the divine wisdom and power were effected, between the evenings of any two days, except what are recorded in the history, to have been effected, in those particular parts of duration. Now, it will not be easy to assign, (we do not say a more rational, but) any other reason, than what we have given above; for the specification of the days of the creation, must necessarily argue some design, worthy of infinite wisdom; because, a bare relation of the facts, in the same order, in which they lie, in the sacred text, would have been, to a tittle, the same, if the days had not been numbered; and a relation of the same facts, or the several particulars of the creation and formation of the heavens, the heavenly bodies, and *Jupiter*, as a planet, would have been the same account of the creation and formation of the world, or System then created.

Since, therefore, notwithstanding that the work of creation was performed in SIX MOMENTS, and yet was not finished till

(1) Exod. XX. 11. (2) Psal. XXXIII. 9. (3) Gen. I. 3. (4) Ver. 6, 7.
our

our sixth day; what conclusion can be more natural, than “ that
 “ the true final cause, why the world, or this System, was
 “ created, in precisely six of our days, was to introduce a
 “ SEVENTH, as a SABBATH, or day of holy rest, to the inhabi-
 “ tants of this earth?”

But the force, and propriety of this final cause increases, in proportion to the number of the primary planets in the Solar System. For, as we have elsewhere demonstrated (1), “ that
 “ the several changes produced on the chaos of the earth, may,
 “ with the same historical truth, be applied, *mutatis mutandis*,
 “ to the chaos of *Jupiter* and the other primary planets;” so the institution of a sabbath, or day of holy rest, is equally applicable to the inhabitants of *Jupiter*, *Saturn*, &c. thus — *And the evening and the morning were the — day. Thus the heavens, the heavenly bodies, and — were finished, even all the host of them. And on the — day God ended his work which he had made: And he rested on the — day, from all his work which he had made. And God blessed the — day, and sanctified it; because that in it he had rested from all his work, which God created and made.*

As this has been already (2) exemplified in substituting the planet *Jupiter*, in the room of the *Earth*, give me leave further to confirm the truth of our general *Scholium*, by the annexed tables, which contain the different days, on *Venus*, *Mars*, *Jupiter*, and *Saturn*, and their coincidence with the corresponding days, or parts of days, on our planet; whereby we shall plainly see, that as our sabbath, or day of rest, was the day, that immediately succeeded the last day of the creation of the earth; so the sabbaths appointed to the inhabitants of the other planets, were:

(1) See *Moses and Bolingbroke*, p. 56.

(2) *Ibid.* p. 59—65.

the days that immediately succeeded the last day of the creation of their respective planets.

That in these tables, we have justly fixed the beginning of the first day, will evidently appear, from what has been already demonstrated (1); to wit, “ That when the sun first shone upon the earth, and indeed, upon every planet in the System, it must necessarily have appeared in its *meridian* glory. The beginning, therefore, of the first day, must necessarily be fixed to that moment of time, when the sun was in the meridians of the first-enlightened hemispheres, of the earth, and every planet.—Now, as the diurnal motion of the planets is from West to East; as soon as ever the sun had passed to the westward of those first meridians; that is, the moment the sun began to decline, the *evening* on each of them commenced. Since, therefore, the first natural day is to be reckoned from the appearance of the sun, in the meridians of the earth and every planet; and since God called the darkness, or the absence of the sun, night; when the sun should be in the meridians of the opposite hemispheres, it would be midnight to the first-enlightened, we have two principal parts of time ascertained; to wit, the true *astronomical evening* and *morning*; for as astronomers as well as *Moses* reckon their morning, from the time of midnight, to that of noon, or mid-day; their evening, or *post meridiem*, must be, like the evening of *Moses*, from noon, or mid-day, to mid-night.

Now, as *Venus* revolves about her axis, once in twenty-three hours, her days would correspond with ours, according to the following table:

(1) See p. 59, 60.

VENUS.				THE EARTH.			
Her first Day began	-	-	-	on Sunday, at 12 at noon.			
———— ended	-	-	-	Monday, - 11 a. m.			
second — ended	-	-	-	Tuesday, - 10 a. m.			
third — ended	-	-	-	Wednesday, 9 a. m.			
fourth — ended	-	-	-	Thursday, 8 a. m.			
fifth — ended	-	-	-	Friday, - 7 a. m.			
sixth — ended	-	-	-	Saturday, - 6 a. m.			
seventh — ended	-	-	-	Sunday, - 5 a. m.			

MARS.
THE EARTH.

As this planet performs one revolution about its axis, in 24 hours and 40 minutes,

His first Day began	-	-	-	on Sunday, at 12 at noon.
———— ended	-	-	-	Monday, - 0 40' p. m.
second — ended	-	-	-	Tuesday, - 1 20' p. m.
third — ended	-	-	-	Wednesday, 2 p. m.
fourth — ended	-	-	-	Thursday, 2 40' p. m.
fifth — ended	-	-	-	Friday - 3 20' p. m.
sixth — ended	-	-	-	Saturday - 4 p. m.
seventh — ended	-	-	-	Sunday - 4 40' p. m.

Though the diurnal motion of *Mercury*, from its nearness to, and of *Saturn*, from its great distance from the *Sun*, have not yet been observed; it is most reasonable to conclude they revolve, each of them, about their axes. But *Mr. Hugen* is of opinion, “that all the primary planets revolve about their axes, and thereby their whole surfaces would by turns enjoy the light of the sun (1).” And speaking of the inhabitants of *Saturn*, he says, “What the length of their days is, cannot certainly be known; but from the distance, and the period of the innermost of *Jupiter*’s, it is likely that they are not longer

(1) *Hugen*’s Opera, Tom. II. p. 564.

“ than the days of *Jupiter* (1); which are equal to five of our
 “ hours, and the nights of the same length (2).”

It is said, indeed, that *Saturn* has not his equatorial, greater than his polar diameter; however, on the authority of *Moses*, we scruple not to say, that every planet in the System was impressed with a violent motion, which carried them about their axes, whilst in a fluid state, and before their atmospheres were formed (3); and therefore, they must all of them have their *equatorial*, greater than their polar diameters.

The days of *Jupiter*, therefore, (and with *Hugens*, we suppose the same of *Saturn*) being equal to ten of our hours;

JUPITER and SATURN.

The EARTH.

Their first Day began	-	-	-	on Sunday, at 12 at noon.
— ended	-	-	-	Sunday, - 10 p. m.
second — ended	-	-	-	Monday, - 8 a. m.
third — ended	-	-	-	Monday, - 6 p. m.
fourth — ended	-	-	-	Tuesday, - 4 a. m.
fifth — ended	-	-	-	Tuesday, - 2 p. m.
sixth — ended	-	-	-	Tuesday, - 12 p. m.
seventh — ended	-	-	-	Wednesday, 10 a. m.
eighth — ended	-	-	-	Wednesday, 8 p. m.
ninth — ended	-	-	-	Thursday, - 6 a. m.
tenth — ended	-	-	-	Thursday, - 4 p. m.
eleventh ended	-	-	-	Friday, - 2 a. m.
twelfth — ended	-	-	-	Friday, - 12 at noon.
thirteenth ended	-	-	-	Friday, - 10 p. m.
fourteenth ended	-	-	-	Saturday, - 8 a. m.
fifteenth ended	-	-	-	Saturday, - 6 p. m.

(1) *Hugens's Opera*, Tom. II. p. 702. (2) *Ibid.* p. 700. (3) See *Moses and Bolingbroke*, p. 33, 34.

ADDENDA, et CORRIGENDA.

AT page 60. line 7. after question, *should have been inserted---*

For if the sun had first appeared in the horizon, it must have appeared either rising, or setting; if rising, it could not have been noon-day, till after having shone for some hours, it should have reached the meridian; hence it would follow, that the whole hemisphere was not enlightened when the sun first shone upon that hemisphere; which is absurd. If the sun had first appeared setting, it must have passed the meridian for some hours; which is absurd. But the fact was plainly and evidently this; when the sun first shone upon the earth, &c.

To be added to the Note page 93.

In the dreadful earthquake, by which twelve cities in *Asia* were overturned, "it is reported (says *Tacitus*) that huge mountains sunk into the earth; that plains were raised up into high hills; and that dreadful flashes and eruptions of fire were seen among the ruins." *Universal Hist.* Vol. XIV. p. 130.

"*Sicily*, which formerly made one continent with *Naples*, in the year 1693, by one single earthquake lost 49 towns and villages, 922 churches, colleges, and convents, with 93,000 persons buried in the ruins." *Keisler's Travels*, Vol. II. p. 365.

To page 94. — to execute the threatened vengeance, add the following Note.

As the high hills and the mountains, that were covered at the flood, were the original mountains and hills that were formed under the waters, before the dry land appeared; so the postdiluvian mountains were formed under the waters, before the flood was at the highest; for the ark rested on the mountains of *Ararat*. And here we cannot omit to observe, that as this threatened ven-

Q

geance

geance was brought upon the earth, by natural means; so the promise of God to NOAH, *that the waters should no more become a flood to destroy all flesh*, was secured, by natural means; to wit, by the peculiar construction of the new earth, whose mountains, that bear no proportion to the antediluvian, owed their original to that subterraneous wind, which God made to pass through the body of the then-immersed earth: not that plains were raised up into mountains, but that the circumjacent ground, at the foot of every high mountain, sunk into the abyss, and thereby left these amazing monuments of the certainty, and universality, of the deluge.

E R R A T A.

Page 15. in the Text, l. 4, 5. *dele* to rule the night.

16. l. 23. *dele* fix.

25. l. 4. *from the bottom, after see, put*) — and l. 3. *dele*)

27. l. 4. *for αἰωνας, read αἰωνας.*

35. l. penult. *dele* (

39. l. 7. *before and after form, put* “ ”

43. l. 22. *for ; put, 41. l. 19 for a put e*

47. l. ult. *dele* as.

65. l. 14. *from the bottom, for twenty-fours, read* twenty-four hours.

66. l. 5. *from the bottom, for on, read* or.

67. l. 8. *from the bottom, before was, put* and.

78. l. 14. *after Earth, put*)

80. l. 2. in the Note, *for* 66, *read* 67.

95. l. 5. *after ipsi, add* planetæ.

105. l. 1. *after other, put* :

3 IV 65

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